Infrastructure Approval

Section 5.19 of the *Environmental Planning & Assessment Act 1979*

I grant approval to the application referred to in Schedule 1, subject to the conditions in Schedules 2 to 4.

These conditions are required to:

- prevent, minimise and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development.

Minister for Planning and Public Spaces

Sydney 20th May, 2020

SCHEDULE 1

Application Number:	CSSI 9687
Proponent:	Snowy Hydro Limited
Approval Authority:	Minister for Planning and Public Spaces
Land:	The land in Appendix 1
Development:	Snowy 2.0 Main Works
Critical State Significant Infrastructure	Development for the Snowy 2.0 and Transmission Project as described in Clause 9 of Schedule 5 of *State Environmental Planning Policy (State and Regional Development) 2011*

TABLE OF CONTENTS

DEFINITIONS **3**

SCHEDULE 2 ADMINISTRATIVE CONDITIONS **5**

Obligation to Minimise Harm to the Environment 6
Terms of Approval 6
Limits on Approval 6
Lapse of Approval 6
Surrender of Approval 6
Demolition 6
Structural Adequacy 7
Protection of Infrastructure 7
Operation of Plant and Equipment 7

SCHEDULE 3 SPECIFIC ENVIRONMENTAL CONDITIONS **8**

Kosciuszko National Park – Knowledge & Enjoyment of the Park 8
Spoil Management 8
Rehabilitation 10
Flora and Fauna 13
Biosecurity and Fish 15
Water 16
Heritage 18
Recreation 19
Transport 19
Waste 21
VIsual 22
Noise 22
Air 23
Emergency Management 23

SCHEDULE 4 ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING **24**

Environmental Management 24
Reporting 24
Independent Environmental Audit 25
Access to Information 25

APPENDIX 1 – SCHEDULE OF LAND **26**

APPENDIX 2 – SITE LAYOUT **34**

APPENDIX 3 – HERITAGE FIGURES **48**

APPENDIX 4 – HERITAGE TABLES **77**

APPENDIX 5 – ROAD WORKS **114**

DEFINITIONS

BAM	The Biodiversity Assessment Method established under the *Biodiversity Conservation Act 2016*
BCA	Building Code of Australia
BCD	The Biodiversity and Conservation Division within the Department
Calendar year	A period of 12 months starting on 1 January
Conditions of this approval	The conditions in Schedules 1 to 4 inclusive
Construction	All physical works associated with the construction of the Main Works, including the demolition and removal of buildings or works, erection or installation of buildings and infrastructure, road upgrades, and the carrying out of works; but excluding any pre-construction minor works
Construction envelope	The envelope within which the disturbance area of the development may be located
DAWE	The Commonwealth Department of Agriculture, Water and the Environment which is responsible for administering the *Environment Protection and Biodiversity Conservation Act 1999*
Decommissioning	The demolition and/or removal of buildings, infrastructure and works installed for the development following the completion of operations
Department	Department of Planning, Industry and Environment
Development	The development of the Exploratory Works and Main Works as modified by the conditions of this approval
Disturbance area	The area within the construction envelope where development may be carried out; the precise location of the disturbance area will be fixed within the construction envelope following final design
EPA	Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPL	Environment Protection Licence under the POEO Act
Evening	The period from 6 pm to 10 pm
Exploratory Works	The development of an exploratory tunnel and associated infrastructure described in the Environmental Impact Statement for *the Snowy 2.0 Exploratory Works* (CSSI 9208) dated July 2018, and modified by the: • *Submissions Report* dated October 2018 and additional information provide to the Department on 17 October 2018, 19 November 2018 and 23 January 2019; • *Modification Report* dated 6 June 2019, associated *Submissions Report* dated 2 September 2019 and amendment letter dated 4 October 2019; and • Modification Report dated 17 October 2019 and associated *Submissions Report* dated 10 January 2020
Feasible	Means what is both possible and practical in the circumstances
Heavy vehicle	A vehicle that has a gross vehicle mass (GVM) or aggregate trailer mass (ATM) of more than 4.5 tonnes and a combination that includes a vehicle with a GVM or ATM of more than 4.5 tonnes (as defined under the Heavy Vehicle National Law (NSW))
Heritage item	An Aboriginal object or an Aboriginal place as defined under the *National Parks and Wildlife Act 1974*, or a place, building, work, relic, moveable object, tree or precinct of heritage significance, that is listed under any of the following: the State Heritage Register under the *Heritage Act 1977*, a state agency heritage and conservation register under section 170 of the *Heritage Act 1977*, or anything identified as a heritage item under the conditions of this approval
Incident	An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance
Land	Has the same meaning as the definition of the term in section 1.4 of the EP&A Act
Lobs Hole site	The development in the vicinity of Lobs Hole, including the GFO1 emplacement area; construction facilities (Main Yard), including workers' accommodation camp and temporary spoil emplacement areas; Main Access Tunnel and Emergency Cable and Ventilation Tunnel portals; and ancillary infrastructure including access roads, substation, cableyard and utilities (see Figure 2.2 in Appendix 2)
Main Works	The development of an underground power station and associated infrastructure described in the Environmental Impact Statement for the *Snowy 2.0 Main Works* (CSSI 9687) dated September 2019, and modified by the: • *Preferred Infrastructure Report and Response to Submissions – Snowy 2.0 Main Works*, dated February 2020; and • Additional information provided to the Department by EMM on 24 March 2020 and 7 April 2020

Marica site	The development in the vicinity of Marica, including the headrace surge shaft; ventilation shaft; construction facility workers' camp; and ancillary infrastructure including access roads and utilities (see Figure 2.3 in Appendix 2)
Material harm	Is unauthorised harm that: • involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial; or • results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)
Maximise	Implement all reasonable and feasible measures to achieve the specified outcome
Minimise	Implement all reasonable and feasible measures to reduce the impacts of the development
Minister	Minister for Planning and Public Spaces (or delegate)
Mitigation	Activities associated with reducing the impacts of the development prior to or during those impacts occurring
Night	The period from 10 pm to 7 am on Monday to Saturday, and 10 pm to 8 am on Sundays and Public Holidays
Non-compliance	An occurrence, set of circumstances or development that is a breach of this approval
NP&W Act	*National Parks and Wildlife Act 1974*
NPWS	National Parks and Wildlife Service
NSW DPI	The NSW Department of Primary Industries within Regional NSW
NRAR	Natural Resources Access Regulator
Operations	The operation of the power station to generate electricity and to pump water for large-scale energy storage, including the commissioning, testing and maintenance of the power station and use of any associated infrastructure
OSOM vehicle	A Class 1 heavy vehicle under the *Heavy Vehicle National Law (NSW)* that is carrying a large indivisible item
PAD	Potential Archaeological Deposit
PAF	Potentially Acid Forming
Plateau site	The development in the vicinity of the Plateau, including the instream barrier in Tantangara Creek and ancillary infrastructure including access roads and utilities (see Figure 2.4 in Appendix 2)
PCTs	Plant community types classified in the NSW BioNet Vegetation Classification application
PMF	Probable Maximum Flood
POEO Act	*Protection of the Environment Operations Act 1997*
Planning Secretary	Planning Secretary under the EP&A Act, or nominee
Pre-construction minor works	Includes the following activities for the Main Works: • building/road dilapidation studies; • survey works; • geotechnical investigation works and soil sampling; • installing groundwater bores in the Ravine beds on site for water supply; • establishing a temporary site office; • construction of minor access roads to facilitate the pre-construction minor works; • installation of environmental impact mitigation measures, including the installation of monitoring equipment, erosion and sediment controls, and fencing; • archaeological salvage, test excavations and investigation works; and • minor clearing or translocation of native vegetation within the disturbance area for the pre-construction minor works
Proponent	Snowy Hydro Limited, or any person carrying out the development to which this approval applies
Public infrastructure	Linear and related infrastructure that provides services to the general public, including the infrastructure assets in the Kosciuszko National Park (excluding recreation areas within the construction envelope), roads, railways, water supply, drainage, sewerage, gas supply, electricity, telephone, telecommunications, etc.
RAPs	The Registered Aboriginal Parties for the development as identified in Appendix P.1 of the Environmental Impact Statement for the Main Works
Reasonable	Means applying judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Reasonably practicable	As defined in the *Biosecurity Act 2015*
Rehabilitation	The restoration of land disturbed by the development to its required condition and/or use and to ensure that it is safe, stable and non-polluting

Remediation	Activities associated with partially or fully repairing or rehabilitating the impacts of the development or controlling the environmental consequences of this impact
RFS	Rural Fire Service
Rock Forest site	The development on the Rock Forest property, including the Rock Forest emplacement area, logistics laydown area and ancillary infrastructure including access roads (see Figure 2.13 in Appendix 2)
Site	All land to which the development application applies as listed in Appendix 1 and shown in Appendix 2
Talbingo Reservoir site	The development in and around the Talbingo Reservoir, including the Ravine Bay emplacement area; development at Middle Bay, including the water intake and associated structures, barge launch ramp, and construction facilities; and ancillary infrastructure, including access roads and utilities (see Figure 2.1 in Appendix 2)
Tantangara Reservoir site	The development in and around the Tantangara Reservoir, including the Tantangara emplacement area; water intake and associated infrastructure; barge launch infrastructure; construction and laydown facilities, including workers' camp; fish screens; and ancillary infrastructure, including access roads and utilities (see Figure 2.5 in Appendix 2)
TfNSW	Transport for NSW, including the Roads and Maritime Service
Water Group	The Water Group within the Department

SCHEDULE 2
ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. In meeting the conditions of this approval, the Proponent must implement all feasible and reasonable measures to prevent, and if prevention is not feasible or reasonable, minimise any material harm to the environment that may result from the construction, operation, decommissioning or rehabilitation of the development.

TERMS OF APPROVAL

2. The Proponent must carry out the development:
   (a) generally in accordance with the Exploratory Works and Main Works; and
   (b) in accordance with the conditions of this approval.

   Notes:
   - *The key documents for the Exploratory Works and Main Works are identified in the definitions of this approval.*
   - *The general layout of the development is shown in Appendix 2.*

3. If there is any inconsistency between the above documents, the most recent document will prevail to the extent of the inconsistency. However, the conditions of this approval must prevail to the extent of any inconsistency.

4. The Proponent must comply with any requirement/s of the Planning Secretary arising from the Department's assessment of:
   (a) any strategies, plans or correspondence submitted in accordance with this approval;
   (b) any reports, reviews or audits commissioned by the Department regarding compliance with this approval; and
   (c) the implementation of any actions or measures contained in these documents.

LIMITS ON APPROVAL

Restrictions on Disturbance Area and Native Vegetation Clearing

5. The Proponent must comply with the restrictions in Table 1 below.

Table 1: Restrictions on Approval

Matter	***Exploratory Works***	***Main Works***	***Total***
Maximum Disturbance Area	126 ha	504 ha	630 ha
Maximum Native Vegetation Clearing	107 ha	425 ha	532 ha

Note: The areas in Table 1 relate to direct disturbance and clearing and do not include the indirect impacts of this disturbance and clearing.

Staging

6. The Proponent may construct, operate, and decommission the development in stages. When staging occurs, the Proponent is only required to comply with the conditions of this approval that are relevant to the specific stage/s.

LAPSE OF APPROVAL

7. This approval will lapse if the Proponent does not physically commence the development within 5 years of the date on which it is granted.

SURRENDER OF APPROVAL

8. Within 6 months of the commencement of construction, unless the Planning Secretary agrees otherwise, the Proponent must surrender the infrastructure approval (CSSI 9208) for the Exploratory Works in accordance with Clause 197 of the *EP&A Regulation*.

9. Prior to surrendering the infrastructure approval (CSSI 9208) for the Exploratory Works, the Proponent must update the approved management plans for the development to incorporate the approved management plans for the Exploratory Works to the satisfaction of the Planning Secretary.

DEMOLITION

10. The Proponent must ensure that all demolition work on site is carried out in accordance with *Australian Standard AS 2601-2001: The Demolition of Structures,* or its latest version.

STRUCTURAL ADEQUACY

11. The Proponent must ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA; and where the BCA is not applicable, the relevant Australian Standard.

Notes:

- *Under Part 6 of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the development.*
- *Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.*

PROTECTION OF INFRASTRUCTURE

12. Unless the Proponent and the applicable authority agree otherwise, the Proponent must:
    (a) repair, or pay the full cost associated with repairing, any public infrastructure that is damaged by the development; and
    (b) relocate, or pay the full cost associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

Note: This condition does not apply to any damage to roads caused by the development.

OPERATION OF PLANT AND EQUIPMENT

13. The Proponent must ensure that all plant and equipment used on site, or in connection with the development, is:
    (a) maintained in a proper and efficient condition;
    (b) operated in a proper and efficient manner; and
    (c) kept free of weeds, seeds and pathogens when entering or leaving the site.

SCHEDULE 3
SPECIFIC ENVIRONMENTAL CONDITIONS

KOSCIUSZKO NATIONAL PARK – KNOWLEDGE & ENJOYMENT OF THE PARK

1. The Proponent must:
   (a) consolidate all the information presented in the documents prepared for the Exploratory Works and Main Works (see definitions) in a single, open source database;
   (b) supplement this information over time with the information that must be gathered and made public under the conditions of this approval;
   (c) prepare a detailed archival record of all phases of the development; and
   (d) make this information publicly available.

2. Within 6 months of the commencement of construction, the Proponent must prepare a Digital Strategy for the development to the satisfaction of the Planning Secretary. This strategy must:
   (a) be prepared in consultation with the NPWS;
   (b) identify innovative ways to give effect to the requirements in condition 1 above; and
   (c) include a program to develop a digital application for users of the Kosciuszko National Park to bring key information to life in an interactive way and enhance the enjoyment of the park.

3. The Proponent must implement the approved Digital Strategy for the development.

SPOIL MANAGEMENT

Spoil Management Requirements

4. The Proponent must:
   (a) minimise the spoil generated by the development;
   (b) test and classify the relevant physical and chemical characteristics of the spoil;
   (c) manage, use or dispose of the spoil in accordance with its classification;
   (d) develop and implement suitable procedures for handling, storing and disposing of any:
      - potentially acid forming material;
      - asbestiform mineral fibres;
      - contaminated material;
   (e) only place non-reactive spoil, which has a low geochemical risk and is suitable for reuse, in the western emplacement area;
   (f) maximise the reuse of non-reactive spoil on site and in other parts of the Kosciuszko National Park;
   (g) maximise the use of the permanent spoil emplacement areas;
   (h) minimise the spoil left at Lobs Hole and Marica for incorporation into the final landform;
   (i) minimise the water quality impacts of the temporary and permanent emplacement areas;
   (j) not place any spoil from the tunnel boring machines in the active storages or below the full supply level of either the Talbingo Reservoir or Tantangara Reservoir without the approval of the Planning Secretary; and
   (k) not place any spoil from dredging, channel excavation or underwater blasting in the eastern and western emplacement areas, or in the active storages or below the full supply level of either the Talbingo Reservoir or Tantangara Reservoir without the approval of the Planning Secretary.

Permanent Spoil Emplacement Areas

5. Apart from the spoil that is provided to the NPWS for use in other parts of the Kosciuszko National Park, sent off-site, used to construct temporary or permanent infrastructure for the development or used to rehabilitate the site, the Proponent must ensure that all the spoil generated by the development is disposed of in the following emplacement areas:
   (a) Ravine Bay;
   (b) GFO 1;
   (c) Lobs Hole;
   (d) Tantangara; or
   (e) Rock Forest.

   Note: The location of these emplacement areas is shown in the figures in Appendix 2.

Design Objectives for Permanent Spoil Emplacement Areas

6. The Proponent must ensure the permanent spoil emplacement areas comply with the design objectives in Table 2.

Table 2: Design *Objectives for Permanent Spoil Emplacement Areas*

Aspect	***Objective***
Landforms	• As natural as possible, including minimising the use of linear or engineered structures • Sympathetic with the landforms in the surrounding area, particularly from a visual, water management and ecological perspective • Suitable drainage density • Safe, long-term stable and non-polluting • Where feasible, gradients along the water line of the reservoirs that could be exposed under normal conditions (i.e. above the minimum operating level) must be suitable for safe recreational use and consistent with the approved Recreation Management Plan • Provide suitable access for vehicles and/or all-terrain vehicles for rehabilitation, weed control and firefighting to allow for spraying from vehicles (at around 200 metres measured on the slope, or as approved by the NPWS)
Water management	• Integrate the drainage of the emplacement area with the surrounding drainage network, including any upstream flows and residual run-on water • Minimise downstream water flows and velocities with any changes to be quantified and addressed though suitable design • Minimise valley infill • Create natural drainage lines that are long-term sustainable having regard to the selection of suitable underlying materials, including rock sizing and grading • Minimise the use of large rocks in drainage lines • Minimise the concentration of water on landforms unless this is consistent with accepted drainage density and geomorphic design practices • Minimise the generation and dispersion of sediment in the Talbingo Reservoir, Tantangara Reservoir or other waterways
Erosional stability	• Minimise steep slopes, particularly slopes that will be difficult to access and maintain (such as slopes over 18^{o} or 1V:3H) • The final surface of the landform must be long-term sustainable with sufficient topsoil (or some other suitable growth medium) to maintain a soil water profile and sustain vegetation • Maximise the revegetation of the final surface • Ensure areas subject to wave action are suitably protected or the slopes are flattened to limit wave action
Land Use	• Native vegetation and habitat must comply with the approved Rehabilitation Management Plan • Recreational facilities and use must comply with the approved Recreation Management Plan
Constructability	• The emplacement area must be constructible having regard to the: - availability of suitable material, including topsoil - erosion and sediment control; - access; - initial shaping of natural ground; - progressive rehabilitation; - shapes and benching; and - safety around water

Spoil Management Plan

7. Prior to the commencement of construction, the Proponent must prepare a Spoil Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:
   (a) be prepared by a suitably qualified and experienced person in consultation with the NPWS, EPA, Water Group, NRAR, NSW DPI and TfNSW;
   (b) provide an overarching framework for the management of all spoil generated on site - including the testing, classification, handling, temporary storage and disposal of spoil – that complies with the spoil management requirements in condition 4 above;

(c) include a detailed plan for managing the temporary spoil stockpiles of the development, which includes suitable triggers for remedial measures (if necessary) and describes the contingency measures that would be implemented to address any water quality risks;
(d) include a detailed plan for managing all the reactive or contaminated spoil generated on site, including the contingency measures that would be implemented if the volumes of this spoil are greater than expected and unsuitable for land disposal;
(e) detailed plans for each of the permanent spoil emplacement areas that have been prepared using both analogue and erosional-based methods, these plans must:
- describe how the development of each emplacement area would be co-ordinated with the rehabilitation of the site in accordance with the approved Rehabilitation Management Plan;
- describe the measures that would be implemented to comply with the spoil management requirements in condition 4 above and the design objectives in Table 2;
- include a topsoil strategy, outlining the measures that would be implemented to ensure the surface of the emplacement area will be suitable to sustain the target PCTs in the long term, having regard to the approved strategy in the Rehabilitation Management Plan;
- identify the key risks for the successful completion of each emplacement area and the contingency measures that would be implemented to address these risks; and
- include detailed completion criteria and performance indicators for each emplacement area, including criteria for triggering remedial action (if necessary);

(f) include a program to monitor and publicly report on:
- the management of spoil on site;
- the implementation of each of the detailed plans, including the effectiveness of the proposed mitigation and contingency measures; and
- progress against the detailed completion criteria and performance indicators of each permanent spoil emplacement area.

Note: The Proponent may stage the preparation of the Spoil Management Plan, including the preparation of detailed plans for each permanent spoil emplacement area. However, the detailed plans must be approved prior to any construction occurring in the relevant emplacement area.

8. The Proponent must implement the approved Spoil Management Plan for the development.

REHABILITATION

Rehabilitation Requirements

9. The Proponent must:
(a) rehabilitate all parts of the site within the Kosciuszko National Park to comply with the rehabilitation objectives in Table 3 and the ecological rehabilitation objectives in Table 4;
(b) rehabilitate the Rock Forest site to comply with the rehabilitation objectives in Table 5;
(c) complete the initial rehabilitation of the site - including the removal of all temporary infrastructure, creation of landforms, narrowing of roads - within 3 years of completing construction;
(d) complete the ecological rehabilitation of the site, apart from the areas used for operations, within 20 years of completing construction;
(e) complete the final rehabilitation of the site, including the removal of all remaining infrastructure, within 3 years of decommissioning the development; and
(f) complete the ecological rehabilitation of the areas used for operations within 20 years of decommissioning the development.

Table 3: Rehabilitation Objectives – Kosciuszko National Park

Feature	***Objective***
Land use	• Enhance the recreational use of the site in accordance with the approved Recreation Management Plan
Land	• Safe, stable and non-polluting • Ensure the creation of all new landforms complies with the design criteria in Table 2 • Minimise surface disturbance of site during construction • Progressively rehabilitate the site as soon as possible following disturbance • Employ interim rehabilitation strategies to areas that can't be permanently rehabilitated yet to minimise dust generation, erosion, uncontrolled discharges of sediment, and the spread of weeds to other parts of the Kosciuszko National Park
Infrastructure	• Decommission and remove infrastructure, unless NPWS agrees otherwise • Restore all roads on site in accordance with the Long-Term Road Strategy
Community	• Ensure public safety

Table 4. Ecological rehabilitation objectives, including indicative completion criteria and performance indicators

Ecological rehabilitation objective	*Completion criteria*	*Performance indicators*
Objective 1: The vegetation composition of the rehabilitation is recognisable as a plant community type (PCT) contained within the BioNet Vegetation Classification and which was present on site prior to the project's temporary disturbance	(a) Native plant species composition is characteristic of the target PCT based on suitable analysis against a reference data set using the PCT Assignment Tool (b) The target PCT BAM composition score is within or greater than the inter-quartile range of local reference site values for the assigned PCT.	All native vascular plant species are monitored to species level from fixed 0.04 ha monitoring plots in accordance with the BAM, transect intercept method, and/or other method approved by the Planning Secretary. Monitoring should include appropriate reference sites outside the disturbance area, ideally capturing the range of variation of the 2003 and 2019/20 fires.
Objective 2: The vegetation structure of the rehabilitation is recognisable as, or shows a substantial trend towards, a PCT contained within the BioNet Vegetation Classification and which was present on site prior to the project's temporary disturbance.	Cover, abundance and height range of native plant growth forms are characteristic of the target PCTs and within or greater than the inter-quartile range of local reference site values for the assigned PCT.	The cover, abundance and height range of all native vascular plant species are monitored from fixed 0.04 ha monitoring plots in accordance with the BAM, transect intercept method, and/or other method approved by the Planning Secretary.
Objective 3: Levels of ecosystem function have been established that demonstrate the rehabilitation is self-sustainable or shows a substantial trend towards a self-sustaining state.	Growth medium, including topsoil, is suitable for target PCTs establishment, and indicators of nutrient cycling are suitable for sustaining the target PCTs. All priority attributes of nutrient cycling, soil processes and both subsoil and topsoil properties should be within or greater than the interquartile range of local reference site values for the assigned PCT.	Growth medium, covering both subsoil and topsoil properties, and soil processes are monitored using methods approved by the Planning Secretary.
	Rehabilitation vegetation communities are maturing, and natural recruitment is occurring for species within each growth form at rates within or greater than the interquartile range of local reference site values for the assigned PCT.	All species are monitored for establishment of second-generation juveniles/immatures and capacity for recruitment from fixed 0.04 ha monitoring plots in accordance with the BAM, transect intercept method, and/or other method approved by the Planning Secretary
	The number and ground cover of weed species is comparable to, or less than, the interquartile range of local reference site values for the assigned PCT.	Number and ground cover of weed species are monitored from fixed 0.04 ha monitoring plots in accordance with the BAM, transect intercept method, and/or other method approved by the Planning Secretary.
	Fauna habitat features and resources (food and shelter characteristics) within the rehabilitation vegetation communities are present and within or greater than the interquartile range of local reference site values for the assigned PCT.	Presence/absence of some fauna habitat features (e.g. flowering plant, decorticating bark, stags with hollows and/or nest boxes) and quantitative assessment of other features (e.g. leaf litter cover, bare ground, wood debris) are monitored from fixed 0.04 ha monitoring plots in accordance with the BAM, transect intercept method and/or other method approved by the Planning Secretary.

Table 5: Rehabilitation Objectives – Rock Forest Site

Feature	Objective
Land use	• Return the site to its previous use in consultation with the landowner
Land	• Safe, stable and non-polluting • Ensure the creation of all new landforms complies with the design criteria in Table 2 • Minimise surface disturbance on site during construction • Progressively rehabilitate the site as soon as possible following disturbance • Employ interim rehabilitation strategies to areas that can't be permanently rehabilitated yet to minimise dust generation, erosion, uncontrolled discharges of sediment, and the spread of weeds
Infrastructure	• Decommission and remove development-related infrastructure, unless the Planning Secretary agrees otherwise

Rehabilitation Management Plan

10. Within 18 months of the commencement of construction, the Proponent must prepare a Rehabilitation Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:
    (a) be prepared by a suitably qualified and experienced person in consultation with the NPWS, BCD, EPA, NSW DPI and TfNSW;
    (b) be consistent with the Spoil Management Plan, Recreation Management Plan, Long-Term Road Strategy and Visual Mitigation Management Plan;
    (c) include a conceptual plan for the rehabilitation of the whole site;
    (d) include the detailed program for the rehabilitation of roads in the Kosciuszko National Park in accordance with the approved Long-Term Road Strategy;
    (e) include a topsoil balance for the site, which includes a strategy for:
        • maximising the reuse of topsoil on site (provided it is suitable for reuse);
        • using other suitable growth media; and
        • importing additional topsoil to the site (if necessary);
    (f) include a native seed collection and propagation program in accordance with Florabank (www.florabank.org.au) and/or NPWS guidelines for the site, which includes a strategy for:
        • maximising the collection and use of native seed resources from the site prior to disturbance;
        • collecting seed from the surrounding area, including other parts of the Kosciuszko National Park (with the approval of the NPWS); and
        • prioritising the use of local sources of seed for the ecological rehabilitation of the site;
    (g) include detailed plans for the rehabilitation of the disturbance area at each of the following sites, describing the measures that would be implemented to comply with the rehabilitation objectives in Table 3 or 5:
        • Talbingo Reservoir;
        • Lobs Hole;
        • Marica;
        • Plateau;
        • Tantangara Reservoir; and
        • Rock Forest;
    (h) include a detailed ecological rehabilitation management plan for the development that:
        • provides an overarching description of the proposed ecological rehabilitation works, identifying the:
            - plant community types to be established; and
            - area of land to be established for each plant community type;
        • provides maps showing the proposed location of each plant community type;
        • describes the detailed measures that would be implemented to comply with the ecological rehabilitation objectives in Table 4;
    (i) identify the key risks to the successful completion of the rehabilitation and describe the contingency measures that would be implemented to address these risks;
    (j) include detailed completion criteria and performance indicators for the rehabilitation of the development (having regard) to the criteria and indicators in Table 4, including criteria for triggering remedial action (if necessary); and
    (k) include a program to monitor and publicly report on:
        • the rehabilitation of the site;
        • the implementation of the each of the detailed plans, including the effectiveness of the proposed mitigation and contingency measures; and
        • progress against the detailed completion criteria and performance indicators.

11. The Proponent must implement the approved Rehabilitation Management Plan for the development.

FLORA AND FAUNA

Biodiversity Offset Payments

12. The Proponent must make the following payments to the NPWS to offset the residual biodiversity impacts of the Main Works:
    (a) $14.76 million prior to the commencement of construction;
    (b) $14.76 million within 1 year of the commencement of construction;
    (c) $14.76 million within 2 years of the commencement of construction; and
    (d) $14.76 million within 3 years of the commencement of construction.

    Notes:
    - *This payment represents 80% of the Proponent's liability to offset the residual biodiversity impacts of the Main Works. These funds will augment the $8,492,909 already paid to the NPWS to offset the residual biodiversity impacts of the Exploratory Works.*
    - *The NPWS will use these funds and any interest generated by these funds to enhance the biodiversity values of the Kosciuszko National Park. However, in the limited circumstances where it is not possible to address all of the residual biodiversity impacts of the development within the Kosciuszko National Park, the NPWS may use some of these funds to ensure suitable conservation actions are carried out outside the park.*
    - *To ensure accountability, the NPWS will:*
      - *develop and implement a detailed program for the allocation of these funds to specific projects, focusing on the ecosystems and species affected by the development; and*
      - *monitor, evaluate and publicly report on the progress of the implementation of the detailed program and the effectiveness of the specific projects;*
    - *The NPWS will develop and implement a specific program in consultation with DAWE to carry out conservation actions to address the residual biodiversity impacts of the development on the following Commonwealth-listed species and communities:*
      - *Alpine Sphagnum Bogs and Associated Fens;*
      - *Broad-toothed Rat;*
      - *Smoky Mouse;*
      - *Alpine Tree Frog; and*
      - *Alpine She-oak Skink.*

Additional Biodiversity Offset Payment

13. Within 3 years of the commencement of construction, the Proponent must submit a report via the Major Projects Portal that:
    (a) identifies the final disturbance area of the Main Works;
    (b) calculates the difference between the maximum disturbance area and the final disturbance area of the Main Works; and
    (c) calculates the value of the outstanding biodiversity offset payment on a proportionate basis.

14. Within 6 months of the Planning Secretary setting the value of the outstanding biodiversity offset payment, the Proponent must pay the funds to the NPWS.

    Notes:
    - *These conditions relate to the remaining 20% of the Proponent's liability to offset the residual biodiversity impacts of the development.*
    - *They are intended to create an incentive for the Proponent to reduce the biodiversity impacts of the development by reducing the final disturbance area of the development during the final design of the project.*
    - *For instance, if the final disturbance area of the Main Works is only 87% of the maximum disturbance area of the Main Works then the Proponent will only have to pay 35% of the outstanding liability of $14.76 million.*
    - *These funds will be added to the funds paid under condition 12 and managed in accordance with the notes under that condition.*

Potential Additional Offsets – Alpine Sphagnum Bogs and Associated Fens

15. The Proponent must ensure that the development does not cause any exceedances of the following performance measures in the Alpine Sphagnum Bogs and Associated Fens above the Gooandra Volcanics and Kellys Plains Volcanics (see the figures in Appendix 2):
    (a) negligible change to the shallow groundwater regime supporting the bogs and associated fens when compared to a suitable control site; and
    (b) negligible change in the ecosystem functionality of the bogs and associated fens.

16. If the Planning Secretary determines that the development has caused exceedances of the performance measures in condition 15 above, the Proponent must pay additional funds to the NPWS within 3 months of the determination to offset the groundwater-related impacts of the development on these Alpine Sphagnum Bogs and Associated Fens. The Planning Secretary will determine the amount of funds the Proponent must pay following consultation with the NPWS, DAWE and the Proponent; and having regard to:
    (a) the significance of the impacts on the bogs and associated fens;
    (b) the relevant values from the Biodiversity Offsets Payment Calculator; and

(c) the likely cost of carrying out the conservation actions required to offset these impacts on the bogs and associated fens.

Note: These funds will be added to the funds paid under condition 12 and managed in accordance with the notes under that condition.

Biodiversity Management Requirements

17. The Proponent must:
    (a) ensure the development does not adversely affect the native vegetation and habitat outside the disturbance area;
    (b) minimise the clearing of native vegetation and habitat within the disturbance area;
    (c) minimise the trimming of trees required for safety purposes along the approved road network within the Kosciuszko National Park and adjoining the disturbance area;
    (d) minimise the impacts of the development on threatened flora and fauna species or ecological communities within the disturbance area and its surrounds, including the:
        - Alpine Sphagnum Bogs and Associated Fens;
        - Alpine She-oak Skink;
        - Alpine Tree Frog;
        - Booroolong Frog;
        - Broad-toothed Rat;
        - Caladenia montana;
        - Clover Glycine;
        - Eastern Pygmy-possum;
        - Gang-gang Cockatoo;
        - Hoary Sunray;
        - Kiandra Leek Orchid;
        - Leafy Anchor Plant;
        - Mauve Burr-daisy;
        - Max Mueller's Burr-daisy;
        - Raleigh Sedge;
        - Slender Greenhood;
        - Smoky Mouse;
        - Spotted tailed Quoll;
        - Southern Myotis;
        - Thelymitra alpicola;
        - White-bellied Sea-eagle;
    (e) minimise potential fauna strike in sensitive habitat areas on the road network within the site, including reducing speed limits between sunset and sunrise and constructing suitable underpasses;
    (f) undertake pre-clearance surveys;
    (g) maximise the salvage of resources within the disturbance area for reuse in the restoration of vegetation and habitat on site, including native vegetative material, hollows logs, ground timber, and topsoil containing vegetative matter and native seed bank;
    (h) collect seeds for use in the ecological rehabilitation of the site;
    (i) minimise the spread of weeds, pathogens and feral pests on site, and import or export of these matters to or from the site, including the Phytophthora, Chytrid Fungus, African Lovegrass and Ox-eye Daisy;
    (j) minimise the generation and dispersion of sediment to watercourses, particularly Yarrangobilly River and Wallace Creek;
    (k) minimise the light spill from night works, including using directional and LED lighting; and
    (l) minimise bushfire risk.

Biodiversity Management Plan

18. Prior to carrying out any construction, unless the Planning Secretary agrees otherwise, the Proponent must prepare a Biodiversity Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:
    (a) be prepared by a suitably qualified and experienced biodiversity expert/s in consultation with the NPWS, BCD and DAWE;
    (b) describe the detailed measures that would be implemented to comply with the biodiversity mitigation requirements in condition 17 above;
    (c) include a strategy to address the requirements in condition 17(e), including:
        - a detailed risk assessment to identify the locations where underpasses would be built during the upgrade of the road network; and
        - a trigger, action and response plan for reducing speed limits on the road network on site to minimise fauna strike;

(d) include a program to monitor, evaluate and publicly report on:
- the effectiveness of these measures; and
- compliance against the performance measures in condition 15 above, including:
  - establishing a suitable control site;
  - baseline monitoring of the condition of the relevant Alpine Sphagnum Bogs and Associated Fens;
  - detailed criteria for determining the impact of the development on the performance measures; and
  - a program to monitor the impacts of the development against the detailed criteria.

19. The Proponent must implement the approved Biodiversity Management Plan for the development.

BIOSECURITY AND FISH

Biosecurity and Fish Management Requirements

20. The Proponent must:
(a) minimise the biosecurity risks associated the development, including the movement and/or spread of weeds, pests and pathogens;
(b) minimise the impact of the development on threatened fish species and their habitat, particularly the Macquarie Perch, Stocky Galaxias and Murray Crayfish; and
(c) minimise the impact of the development on recreational fishing in Tantangara Reservoir and Lake Eucumbene.

Fish Screens and Barrier

21. Prior to the commencement of commissioning, the Proponent must install:
(a) a fish barrier on Tantangara Creek to prevent so far as is reasonably practicable Climbing Galaxias reaching the existing population of Stocky Galaxias in the upper reaches of the creek; and
(b) fish screens at the southern end of the Tantangara Reservoir to prevent so far as is reasonably practicable the movement of pest fish (in all its forms: eggs, larvae, juveniles and adults) and spread of disease to the mid-Murrumbidgee River and Lake Eucumbene.

Biosecurity Risk Management Plan

22. Within 2 years of the commencement of construction, the Proponent must prepare a Biosecurity Risk Management Plan for the development to the satisfaction of the Director-General of NSW DPI. This plan must:
(a) be prepared by a suitably qualified and experienced person in consultation with DPIE, NPWS and DAWE;
(b) include a detailed biosecurity risk management framework for minimising the ongoing biosecurity risks of the development required in condition 20(a) above, including:
- developing systems to prevent spills from the Tantangara Reservoir so far as is reasonably practicable; and
- pest fish and disease surveillance and eradication/management measures to protect the Macquarie Perch and Stocky Galaxias in the Mid to Upper Murrumbidgee catchment and the salmonid fishery in Lake Eucumbene;

(c) include detailed plans for the installation and use of the fish screens and barriers required in condition 21 above, including:
- minimising the environmental impacts associated with installing the screens,
- testing the effectiveness of the screens before they are used; and
- maintaining and improving the effectiveness of the screens and barriers over time;

(d) include a program to monitor, evaluate and publicly report on these plans, including:
- carrying out monitoring using epidemiologically designed surveys; and
- conducting fish, disease and eDNA surveys.

23. The Proponent must implement the approved Biosecurity Risk Management Plan for the development.

Threatened Fish Management Plan

24. Within 12 months of the commencement of construction, the Proponent must prepare a Threatened Fish Management Plan for the development to the satisfaction of the Director-General of NSW DPI. This plan must:
(a) be prepared by a suitably qualified and experienced person in consultation with DPIE and DAWE;
(b) include the establishment and use of an expert advisory committee to provide advice to the proponent on the implementation of the plan;

(c) describe the detailed measures that would be implemented to comply with condition 20(b) above;
(d) include a detailed captive breeding program for the Macquarie Perch and Stocky Galaxias involving the spending of $5 million over 5 years from the commencement of the program that provides for:
- population monitoring, surveillance and research on the Macquarie Perch and Stocky Galaxias in the Mid to Upper Murrumbidgee catchment;
- habitat surveys to identify suitable receiving sites for stocking insurance populations of Stocky Galaxias and Macquarie Perch;
- captive breeding, stocking and monitoring of Macquarie Perch and Stocky Galaxias with the aim of achieving self-sustaining populations of these species;
- habitat enhancement for the Macquarie Perch in the mid-Murrumbidgee catchment in accordance with the National Recovery Plan to increase the existing population's resilience to the potential biosecurity risks from the development

(e) include a review after 5 years of the commencement of the captive breeding program in (d) above and detail the trigger, action and response plan for the extension of the program;
(f) include a program to minimise the impacts of the development on the Murray Crayfish in Talbingo Reservoir, including:
- population monitoring and surveillance for Murray Crayfish;
- relocating any Murray Crayfish from the disturbance area of the development prior to disturbing the relevant area; and
- habitat enhancement for the Murray Crayfish habitat in the vicinity of the disturbance area at the Talbingo Reservoir, including the use of woody debris salvaged during construction; and

(g) include a program to monitor and publicly report on the progress of each program/plan and the effectiveness of these measures.

25. The Proponent must implement the approved Threatened Fish Management Plan for the development.

Recreational Fishing Management Plan

26. Within 12 months of the commencement of construction, the Proponent must prepare a Recreational Fishing Management Plan for the development to the satisfaction of the Director-General of NSW DPI. This plan must:
(a) be prepared by a suitably qualified and experienced person in consultation with DPIE, NPWS and relevant recreational fishing groups;
(b) describe the detailed measures that would be implemented to comply with condition 20(c) above, including:
- a program involving the spending of $5 million over 5 years from the commencement of the program to develop the capability to restock, and to restock, the Tantangara Reservoir and Lake Eucumbene with salmonid fish;
- a program to monitor the impacts of the development on recreational fishing in Tantangara Reservoir and Lake Eucumbene;
- a review after 5 years of the commencement of the restocking program and detail the trigger, action, and response plan for the continuation of the restocking of Tantangara Reservoir and/or Lake Eucumbene salmonid fish;

(c) include a program to monitor and publicly report on the effectiveness of these measures.

27. The Proponent must implement the approved Recreational Fishing Management Plan for the development.

WATER

Water Supply

28. The Proponent must ensure it has sufficient water for each stage of the development; and if necessary, adjust the scale of development on site to match its available water supply.

Note: Under the Water Management Act 2000, the Proponent must obtain the necessary water licences for the development.

Water Pollution

29. Unless an environment protection licence authorises otherwise, the Proponent must comply with Section 120 of the POEO Act.

Note: Section 120 of the POEO Act makes it an offence to pollute any waters.

Water Management Requirements

30. The Proponent must:
    (a) maximise the recycling and reuse of water on site;
    (b) maximise the diversion of clean water runoff around the disturbance areas;
    (c) minimise the flow rates and velocities of any clean water runoff diversions to adjoining watercourses;
    (d) minimise the flooding impacts of the development;
    (e) minimise groundwater take from the Gooandra Volcanics and Kellys Plain Volcanics using pre and post grouting of the tunnel, to minimise the loss of stream flows in the waterways above these geological formations, including Gooandra Creek and the headwaters of the Eucumbene River;
    (f) minimise erosion and the generation and dispersion of sediment using suitable controls in accordance with the relevant requirements in the *Managing Urban Stormwater: Soils and Construction* guidance series;
    (g) design all instream works, particularly the inlet and outlet works, to minimise scour and erosion;
    (h) unless permitted by this approval, avoid carrying out of any development within 40 metres of any watercourse;
    (i) carry out all instream works or development within 40 metres of any watercourse generally in accordance with the requirements in the *Guidelines for Controlled Activities on Waterfront Land;*
    (j) treat all wastewater and surplus process water prior to discharging it at the approved discharge points at the Talbingo Reservoir or Tantangara Reservoir;
    (k) reduce the number of diffuser points for low velocity discharges to the Talbingo Reservoir or Tantangara Reservoir;
    (l) not discharge any surplus process water to the stormwater basins on site;
    (m) minimise the surface water quality impacts of the development, including:
        - the development carried out in the vicinity of waterways, particularly the Talbingo Reservoir, Tantangara Reservoir and Yarrangobilly River;
        - all instream works, including dredging, channel excavations, underwater blasting, barge infrastructure, fish barriers and screens, culverts and bridges, and service crossings;
        - the temporary and permanent spoil emplacement areas;
        - development at the Marica, Plateau and Rock Forest sites;
        - road works;
        - the operation of the power station and associated infrastructure, including the operation of the inlets and outlets to minimise sediment disturbance risks and the dewatering of the tailrace tunnel;
    (n) minimise the risk of spills or leaks on site, and clean up any spills or leaks as quickly as possible;
    (o) minimise the groundwater quality impacts of the development, particularly through the design of the temporary and permanent spoil emplacement areas and all water storages on site;
    (p) store chemicals and hydrocarbon products in bunded areas in accordance with the relevant Australian Standards.

Water Management Plan

31. Prior to the commencement of construction, the Proponent must prepare a Water Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:
    (a) be prepared by a suitably qualified and experienced person in consultation with the EPA, NPWS, the Water Group, NRAR and NSW DPI;
    (b) include a Site Water Balance for the development with a program to review and update this water balance each calendar year;
    (c) include a Surface Water Management Plan, containing detailed plans for the Talbingo Reservoir, Lobs Hole, Marica, Plateau, Tantangara Reservoir, and Rock Forest sites, with:
        - detailed baseline data on surface water flows and quality in the watercourses that could be affected by the development, and a program to augment this baseline data over time;
        - detailed criteria for determining the surface water impacts of the development (flows, quality and flooding), including criteria for triggering remedial action (if necessary);
        - a description of the measures that would be implemented to minimise the surface water impacts of the development and comply with the relevant water management requirements in conditions 4, 6 and 30 above, including specific plans covering:
            - the temporary or permanent emplacement of spoil;
            - dredging, channel extraction and underwater blasting in the Talbingo Reservoir and Tantangara Reservoir;
            - operation of the discharge points;
            - the design of the inlets and outlets; and
            - dewatering of the tailrace tunnel during operations;
        - identify the key risks to the successful implementation of these measures, and describe the contingency measures that would be implemented to address these risks;
        - a program to monitor and publicly report on the surface water impacts of the development;

(d) include a Groundwater Management Plan with:
- detailed baseline data of groundwater levels, yield and quality on the aquifers that could be affected by the development, and a program to augment this baseline data over time;
- a program to validate and calibrate the groundwater model for the development as new information is collected;
- detailed criteria for determining the groundwater impacts of the development, including criteria for triggering remedial action (if necessary);
- a description of the measures that would be implemented to comply with the water management requirements in condition 30 above;
- a program to monitor and publicly report on:
  - groundwater inflows to the tunnel;
  - water take from the groundwater bores and connected water sources;
  - the impacts of the development on:
    - regional and local (including alluvial) aquifers;
    - base flow to surface water sources.

Note: The Proponent may stage the preparation of the Water Management Plan, including the preparation of each of the detailed plans required under the Surface Water Management Plan. However, the detailed plans must be approved prior to any construction occurring on the relevant site.

32. The Proponent must implement the approved Water Management Plan for the development.

HERITAGE

Protection of Heritage Items

33. The Proponent must ensure that the development does not affect:
(a) any Aboriginal heritage items outside the construction envelope (see Appendix 3);
(b) the rock shelter (AHIMS 57-4-276) to the west of the Tantangara site (see Appendix 3);
(c) any of the historic heritage items outside the construction envelope (see Appendix 3);
(d) the heritage items listed in Table 4-2 and Table 4-4 in Appendix 4; and
(e) the tufa deposits outside the construction envelope (see the figures in Appendix 3).

Heritage Management Requirements

34. The Proponent must:
(a) undertake archival recording, test excavation and/or salvage of the Aboriginal heritage items listed in Table 4-3 in Appendix 4 if these items will be affected by the development;
(b) undertake archival recording, test excavation and/or salvage of the historic items listed in Table 4-1 in Appendix 4 if these items are to be affected by the development;
(c) prepare a detailed archival record of the history of settlement and mining in the Lobs Hole Ravine area; and
(d) minimise the impacts of the development on the boulder streams and fossiliferous beds along Lobs Hole Ravine Road (see the figures in Appendix 3).

Heritage Management Plan

35. Prior to carrying out any development for the Main Works that could affect the heritage items listed in Appendix 3 and 4, the Proponent must prepare a Heritage Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:
(a) be prepared by a suitably qualified and experienced person in consultation with the NPWS, BCD, Heritage Council, RAPs, Yala Ngurumbang Yindyamarra Executive Advisory Committee and Southern Snowy Mountains Aboriginal Community MOU Group;
(b) describe the measures that would be implemented to:
- protect the heritage items identified in condition 33 above;
- comply with the heritage management requirements in condition 34 above, including the display of removable heritage items in consultation with the NPWS and BCD;
- relocate moveable historic heritage items within the disturbance area;
- manage the discovery of human remains or previously unidentified heritage items;
- provide for ongoing consultation with key stakeholders during the implementation of the plan;
- involve key stakeholders in the management of heritage items on site;
- allow Aboriginal stakeholders to visit significant cultural heritage sites on site, provided this can be carried out safely without compromising the construction of the development; and
- ensure workers receive suitable training and inductions on the heritage management requirements on site;
(c) include a program to monitor and report on the effectiveness of these measures; and
(d) include a program to publish:
- any detailed archival records required under the conditions of this approval; and
- the findings of any excavations and salvage works.

36. The Proponent must implement the approved Heritage Management Plan for the development.

RECREATION

Offset

37. Prior to the commencement of construction, unless the Planning Secretary agrees otherwise, the Proponent must pay the NPWS $1,995,000 to offset the recreational impacts of the Main Works on the Kosciuszko National Park.

Notes:

- *These funds will augment the $4,962,777 already paid to the NPWS to offset the conservation and recreational impacts of the Exploratory Works on the Kosciuszko National Park.*
- *The NPWS will use these funds and any interest generated by these funds to enhance the recreational facilities in the Kosciuszko National Park, particularly in the areas surrounding the Talbingo Reservoir, Lobs Hole and Tantangara Reservoir sites.*
- *To ensure accountability, the NPWS will:*
  - *develop a detailed program for the allocation of these funds to specific projects; and*
  - *monitor, evaluate and publicly report on the implementation of the detailed program and the effectiveness of the specific projects.*

Recreation Management Requirements

38. The Proponent must:
    (a) keep Tantangara Road open to the public once it has been upgraded for the development, and have suitable procedures in place to ensure it is safe for unrestricted use and to respond promptly to any temporary public safety risks;
    (b) minimise the impacts of the development on users of the Kosciuszko National Park both within and in the vicinity of the construction envelope;
    (c) minimise any disruption to the use of the Talbingo Boat Ramp;
    (d) minimise the dust and noise impacts of the development on the Wares Yards campground;
    (e) control the recreational activities of the workers staying in the accommodation camp to minimise the impacts of the development outside the approved disturbance area;
    (f) progressively reopen those areas of the Kosciuszko National Park that are closed to the public during construction as soon as possible following the completion of construction;
    (g) keep the community informed about the temporary closure of areas or any recreational facilities within the Kosciuszko National Park.

Recreation Management Plan

39. Within 12 months of the commencement of construction, the Proponent must prepare a Recreation Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:
    (a) be prepared by a suitably qualified and experienced person in consultation with the NPWS, NSW DPI and TfNSW;
    (b) include a conceptual recreation strategy for the site, identifying the recreational facilities that would be provided during the rehabilitation of the site;
    (c) describe how the implementation of this strategy would be co-ordinated with the implementation of the Rehabilitation Management Plan;
    (d) include detailed plans for the provision of recreational facilities at, and future recreational use of, the following sites:
        - Talbingo Reservoir;
        - Lobs Hole;
        - Tantangara Reservoir;
    (e) describe the measures that would be implemented to comply with the recreation mitigation requirements in condition 38 above; and
    (f) monitor and publicly report on the implementation of these plans and measures.

40. The Proponent must implement the approved Recreation Management Plan for the development.

TRANSPORT

Road Upgrades

41. The Proponent must carry out the road and intersection upgrades in Tables 5-1 and 5-2 in Appendix 5 in accordance with any specified timeframes to the satisfaction of the relevant roads authority.

Maintenance – Link Road and Tantangara Road

42. The Proponent must:
    (a) prepare a dilapidation survey of Link Road between the Snowy Mountains Highway and Goat Ridge Road and Tantangara Road in accordance with the relevant Austroads standards and guidelines:
        - prior to the commencement of construction and/or the decommissioning of the development; and
        - within 2 months of the completion of construction and/or the decommissioning of the development;
    (b) rehabilitate and/or make good any development-related damage to Link Road between the Snowy Mountains Highway and Goat Ridge Road and Tantangara Road:
        - identified during the construction and/or decommissioning works if it could endanger road safety, as soon as possible after it is identified but within 7 days at the latest, unless the NPWS agrees otherwise; and
        - identified in any dilapidation survey completed after the construction and/or decommissioning works within 2 months of the completion of the survey,

    to the satisfaction of the NPWS.

    If there is a dispute about the scope of any remedial works or the implementation of these works, then either party may refer the matter to the Planning Secretary for resolution.

Vehicle Restrictions

43. All heavy vehicles associated with the development must travel to and from the site via the:
    (a) Snowy Mountains Highway, Miles Franklin Drive and Spillway Road;
    (b) Snowy Mountains Highway, Link Road and Lobs Hole Ravine Road;
    (c) Snowy Mountains Highway, Coppermine Trail and Wallaces Creek Trail;
    (d) Snowy Mountains Highway, Marica Trail;
    (e) Snowy Mountains Highway, Tantangara Road and Quarry Trail; or
    (f) Elliott Way and Link Road (but only following the written approval of the Planning Secretary).

    Note: The Proponent must obtain permits under the Heavy Vehicle National Law (NSW) for the use of any OSOM vehicles on the public road network.

44. The Proponent must:
    (a) restrict vehicle speeds on the road network within the site to 30 km/h between sunset and sunrise, unless the Planning Secretary agrees otherwise;
    (b) restrict the use of Lobs Hole Ravine Road – North to:
        - access to and from the site during emergencies;
        - light vehicles at all other times with:
            - a maximum of 120 vehicle movements allowed a day (60 each way); and
            - an annual average maximum of 60 vehicle movements allowed a day (30 each way); and
    (c) restrict vessel speeds on Tantangara Reservoir and Talbingo Reservoir to current TfNSW speed limits.

Transport Management Requirements

45. The Proponent must:
    (a) minimise the impacts of the road and intersection upgrades of the development;
    (b) maintain all roads and water-related infrastructure on site in a safe and serviceable condition;
    (c) allow NPWS officers to access the site at all times, including during the upgrade of Tantangara Road;
    (d) provide sufficient parking on site for all vehicles and ensure vehicles associated with the development do not park on the public road network;
    (e) ensure heavy vehicles entering and leaving the site have loads covered or contained and enter and leave the site in a forward direction;
    (f) minimise dust and/or sediment being tracked onto Link Road and the public road network;
    (g) minimise the traffic impacts of the development on the public road network, including:
        - scheduling heavy vehicle movements to avoid peak periods;
        - minimising convoy lengths;
        - reducing the speeds of development-related traffic at key intersections along the Snowy Mountains Highway, including the Rock Forest, Tantangara Road, Link Road, Coppermine Trail, Marica Road, Lobs Hole Ravine Road – North and Miles Franklin Drive intersections;
    (h) minimise the traffic safety risks of the development in snow and ice conditions;
    (i) respond rapidly to any heavy vehicle accidents on the designated heavy vehicle routes for the development and secure access to a suitable heavy vehicle recovery vehicle;

(j) minimise the traffic noise impacts of the development, particularly in Cooma and Adaminaby, including:
- limiting the use of truck engine braking on the Snowy Mountains Highway;
- notifying the local community about development-related traffic impacts;

(k) minimise the development-related traffic safety impacts of the development for the public:
- using the Talbingo Reservoir and Tantangara Reservoir and any water-related infrastructure, such as the Talbingo Boat Ramp;
- using Tantangara Road, particularly during the construction of the development;

(l) ensure any vessel or structure occupying waters must display appropriate shapes and lights in accordance with the *Marine Safety (Domestic Commercial Vessel) National Law Act 2012*;

(m) keep the public informed of any road or infrastructure upgrades, disruptions to traffic, the closure of roads or other infrastructure, OSOM vehicle use, peak construction periods, and any emergencies.

Transport Management Plan

46. Prior to the commencement of construction, the Proponent must prepare a Transport Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:
(a) be prepared in consultation with the TfNSW, NPWS, Snowy Monaro Regional Council, Snowy Valleys Council and NSW Police;
(b) include the establishment of a working group – which includes representatives from TfNSW, NPWS, NSW Police, Destination NSW, Snowy Monaro Regional Council and Snowy Valleys Council – to ensure effective communication and co-ordination between stakeholders on transport-related matters during the construction of the project;
(c) describe the measures that would be implemented to comply with the transport management requirements in condition 45 above;
(d) include a detailed:
- Heavy Vehicle Salvage Plan;
- Driver's Code of Conduct;
- Marine Transport Management Plan;
- Snow & Ice Traffic Management Plan;
- Communication Strategy to keep the public informed about the transport impacts of the development; and

(e) include a program to:
- record and track vehicle movements; and
- monitor and publicly report on the effectiveness of these measures.

49. The Proponent must implement the approved Transport Management Plan for the development.

Long-Term Road Strategy – Kosciuszko National Park

50. Within 2 years of the commencement of construction, unless the Planning Secretary agrees otherwise, the Proponent must prepare a Long-Term Road Strategy for the development to the satisfaction of the Planning Secretary. This strategy must be:
(a) be prepared in consultation with the NPWS and TfNSW;
(b) identify the road network within the Kosciuszko National Park required for the development during operations, including the detailed specifications for this road network;
(c) identify which roads within the Kosciuszko National Park can be narrowed or closed following construction and then rehabilitated;
(d) include a detailed program for the rehabilitation of these roads, which can be incorporated into the Rehabilitation Management Plan for the development; and
(e) identify future road maintenance and funding responsibilities for the long-term road network following construction.

51. The Proponent must implement the approved Long-Term Road Strategy for the development.

WASTE

52. Excluding the spoil generated by the development, the Proponent must:
(a) minimise the waste generated by the development;
(b) maximise the reuse and recycling of any waste;
(c) classify all waste generated on site in accordance with the *Waste Classification Guidelines* (NSW EPA 2014), or its latest version;
(d) store and handle all waste generated on site in accordance with its classification; and
(e) ensure all waste is disposed of off-site at facilities that are lawfully permitted to accept such waste.

VISUAL

Visual Impact Management Requirements

53. The Proponent must:
    (a) minimise the visual impacts of the long-term temporary and permanent infrastructure of the development on the Kosciuszko National Park, including:
        - having regard to the *NPWS Park Facilities Manual*;
        - complying with the requirements in approved management plan under the conditions of this approval;
        - using suitable planting and screening;
        - ensuring the visual appearance of the infrastructure blends into the surrounding landscape as much as possible, including:
            - using appropriate colours and non-reflective paints on permanent buildings to reduce glare;
            - incorporating textures on large surfaces and using dark aggregates and oxides for exposed concrete surfaces;
            - using locally sourced stone to clad buildings or portals, such the Lobs Hole substation building façade;
        - incorporating textured surfaces along the shoreline of the Ravine Bay and Talbingo spoil emplacement areas;
        - installing landscaping and/or suitable screening as soon as practicable along the Snowy Mountains Highway boundary of the Rock Forest site to screen the development on site from road users and nearby residences;
    (b) minimising the visual impacts of the development on the Rock Forest site on nearby residences during construction;
    (c) not mount any advertising signs or logos on site, except where this is required for identification or safety purposes;
    (d) minimise the lighting impacts of the development, including ensuring that all external lighting associated with the development:
        - is consistent with the good lighting design principles in the *Dark Sky Planning Guideline*, (DPE 2016), or its latest version; and
        - complies with Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting, or its latest version.

Visual Impact Management Plan

54. Within 12 months of the commencement of construction, the Proponent must prepare a Visual Impact Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:
    (a) be prepared in consultation with the NPWS;
    (b) describe the measures that would be implemented to comply with condition 53 above; and
    (c) include detailed plans for minimising the visual impacts of the following permanent infrastructure:
        - Lobs Hole substation;
        - cable yard;
        - water intakes and associated infrastructure at the Talbingo Reservoir and Tantangara Reservoir;
        - Middle Bay barge ramp;
        - headrace surge shaft and ventilation shaft; and
        - fish screens and barrier.

55. The Proponent must implement the approved Visual Impact Management Plan for the development.

NOISE

Minimise Noise

56. The Proponent must minimise the noise generated by the construction, operation, and decommissioning of the development.

Construction Noise Management Plan – Rock Forest

57. Prior to the commencement of construction on the Rock Forest site, the Proponent must prepare a Construction Noise Management Plan for the development on site to the satisfaction of the Planning Secretary. This plan must:
    (a) be prepared by a suitably qualified and experienced person in consultation with the landowners of the nearby properties;
    (b) describe the measures that would be implemented to minimise the construction noise impacts of the development on the Rock Forest site, including:
        - minimising the use of the site during the evening and night-time periods;

- implementing the best practice noise mitigation measures outlined in the *Interim Construction Noise Guideline* (DECC, 2009), or its latest version; and,
- potentially, the use of voluntary noise mitigation agreements with landowners to allow higher construction noise levels or longer construction hours

(c) include a program to monitor and publicly report on the effectiveness of these measures.

58. The Proponent must implement the approved Construction Noise Management Plan for the Rock Forest site.

AIR

59. The Proponent must:
    (a) minimise the dust, odour, fume, and blast emissions of the development; and
    (b) minimise the surface disturbance of the site.

EMERGENCY MANAGEMENT

Bushfire Requirements

60. The Proponent must:
    (a) include suitable asset protection measures into the final design of the development in accordance with the *Planning for Bushfire Protection* (RFS 2018) guidelines, or its latest version;
    (b) ensure all buildings developed on site comply with the relevant requirements of the BAL-29 construction standards of *Australian Standard AS 3959-2018: Construction of buildings in bushfire prone areas* or the NASH Standard (1.7.14 updated) in *National Standard Steel Framed Construction in Bushfire Areas – 2014*; and
    (c) ensure any fire trails or asset protection zones associated with the development are wholly contained within the approved disturbance area.

Emergency Management Plan

61. Prior to the commencement of construction, the Proponent must prepare an Emergency Management Plan for the development to the satisfaction of the NPWS. This plan must:
    (a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the NPWS;
    (b) be consistent with the *Kosciuszko National Park Fire Management Strategy 2008-2013* (NPWS 2008), or its latest version;
    (c) include evacuation protocols for the site;
    (d) describe the measures that would be implemented to:
        - minimise the risk of bushfires on site;
        - protect the assets on site from bushfires;
        - respond to any bushfires on or in the vicinity of the site;
        - minimise flood risks on site, including flooding response procedures;
        - minimise the risk of landslips on site, including landslip response procedures; and
        - evacuate the site in an emergency; and
    (e) monitor and review the effectiveness of these measures.

SCHEDULE 4
ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. Prior to the commencement of the development of the Main Works, the Proponent must prepare an Environmental Management Strategy for the development to the satisfaction of the Planning Secretary. This strategy must:
   (a) provide the strategic framework for the environmental management of the development;
   (b) identify the statutory approvals that apply to the development;
   (c) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development; and
   (d) describe the procedures that would be implemented to:
      - keep the local community and relevant agencies informed about the progress of the development;
      - receive, handle, respond to, and record complaints;
      - resolve any disputes that may arise during the development;
      - respond to incidents and/or non-compliances; and
      - respond to any emergency.

2. The Proponent must implement the approved Environmental Management Strategy.

Staging and Updating of Strategies, Plans or Programs

3. With the agreement of the Planning Secretary, the Proponent may submit any strategy, plan or program required under this approval on a staged basis. The Proponent may also submit updates to approved strategies, plans or programs at any time.

   With the agreement of the Planning Secretary, the Proponent may prepare the staged or updated strategy, plan or program without undertaking all the consultation required under the applicable condition in this approval.

   Notes:
   - *While any strategy, plan or program may be submitted on a progressive basis, the Proponent will need to ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times.*
   - *If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.*

Update of Strategies, Plans or Programs

4. Within 3 months of the following, unless the Planning Secretary agrees otherwise, the Proponent must review and (if necessary) update the approved strategies, plans and programs for the development to the satisfaction of the Planning Secretary:
   (a) the submission of an incident report under condition 6 below;
   (b) the submission of an independent environmental audit report under condition 10 below; and
   (c) any modification to the conditions of this approval; or
   (d) a direction of the Planning Secretary under condition 4 of schedule 2.

   Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.

Monitoring

5. The Proponent may undertake monitoring outside the construction envelope of the development provided this monitoring is required under the conditions of this approval and authorised under an approved management plan.

REPORTING

Notification of Dates

6. At least 1 week prior to the relevant notification date, the Proponent must notify the Department, NPWS and NSW DPI via the Major Projects Portal of the date of the:
   (a) commencement of the development of the Main Works;

(b) commencement of development on the following sites under this approval:
- Marica site;
- Plateau site;
- Tantangara site; and
- Rock Forest site;

(c) commencement and completion of the required road upgrades;
(d) commencement and completion of construction;
(e) commencement of commissioning and testing the power station;
(f) completion of the initial rehabilitation of the site following construction;
(g) completion of the ecological rehabilitation of the site, apart from the areas used for operations;
(h) commencement and completion of operations;
(i) commencement of decommissioning the development;
(j) completion of the final rehabilitation of the site; and
(k) completion of the ecological rehabilitation of the areas used for operations.

Incident Reporting

6. The Proponent must notify the Department and NPWS via the Major Projects Portal immediately after it becomes aware of an incident on site. This notice must set out the location and nature of the incident.

Reporting Non-compliances

7. Within 7 days of becoming aware of any non-compliance with the conditions of this approval, the Proponent must notify the Department via the Major Projects portal of the non-compliance. This notice must set out the non-compliance, the reasons for the non-compliance (if known) and what actions have been taken, or will be taken, to address the non-compliance.

Reporting on Environmental Performance

8. The Proponent must provide regular reporting on the environmental performance of the development on its website in accordance with the requirements in any approved strategies, plans or programs.

INDEPENDENT ENVIRONMENTAL AUDIT

9. Within one year of the commencement of construction, and every 3 years thereafter unless the Planning Secretary agrees or directs otherwise, the Proponent must commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:
   (a) be conducted by a suitably qualified, experienced and independent team of experts, including a lead auditor, whose appointment has been endorsed by the Planning Secretary;
   (b) include consultation with the relevant agencies;
   (c) assess the environmental performance of the development and whether it is complying with the requirements in this approval (including the requirements of any approved strategy, plan or program);
   (d) review the adequacy of the approved strategies, plans or programs for the development; and
   (e) recommend appropriate measures or actions to improve the environmental performance of the development, and/or any approved strategies, plans or programs.

10. Within 12 weeks of commissioning this audit, unless the Planning Secretary agrees otherwise, the Proponent must submit the following via the Major Projects Portal:
   (a) a copy of the audit report;
   (b) its response to the recommendations in the audit report; and
   (c) a copy of the proposed audit action plan to address the recommendations.

11. The Proponent must implement any approved audit action plan for the development.

ACCESS TO INFORMATION

12. From the commencement of the development of the Main Works until the completion of the ecological rehabilitation of the areas used for operations, the Proponent must:
   (a) make copies of the following information publicly available on its website:
   - the documents referred to in the definition of the Exploratory Works and Main Works;
   - current statutory approvals for the development;
   - approved strategies, plans or programs;
   - a comprehensive summary of the monitoring results of the development, reported in accordance with the requirements in the conditions of this approval, or any approved strategies, plans and programs;
   - a monthly summary of complaints;
   - a record of all incidents and non-compliances;

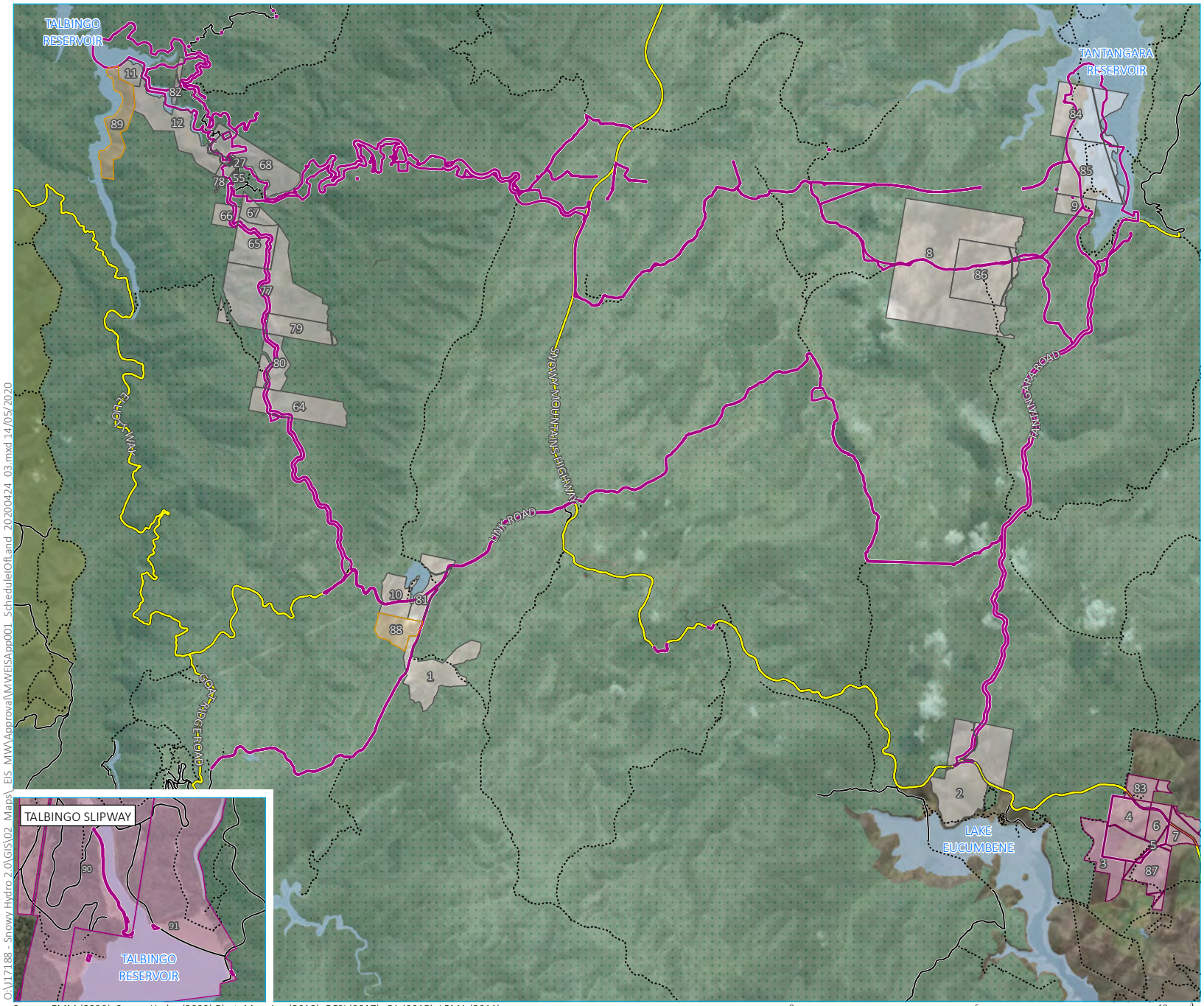
- any independent environmental audit, and the Proponent's response to the recommendations in any audit;
- any approved audit action plan;
- any other matter required by the Planning Secretary;

(b) keep this information up to date.

APPENDIX 1 – SCHEDULE OF LAND

ID on Figures	Lot Number	Section Number	DP	ID on Figures	Lot Number	Section Number	DP
Figures				34	1	3	758870
1	36		46316	35	2	3	758870
2	27		756720	36	3	3	758870
3	24		756720	37	4	3	758870
4	13		756720	38	5	3	758870
5	1		251759	39	6	3	758870
6	11		756720	40	7	3	758870
7	2		756720	41	8	3	758870
8	5		756723	42	9	3	758870
9	3		756723	43	1	5	758870
10	5		756704	44	2	5	758870
11	17		755888	45	3	5	758870
12	18		755888	46	4	5	758870
13	1	1	758870	47	5	5	758870
14	2	1	758870	48	7	5	758870
15	3	1	758870	49	6	5	758870
16	4	1	758870	50	8	5	758870
17	5	1	758870	51	9	5	758870
18	7	1	758870	52	14	5	758870
19	6	1	758870	53	15	5	758870
20	8	1	758870	54	16	5	758870
21	9	1	758870	55	7001		1056249
22	10	1	758870	56	1	6	758870
23	11	1	758870	57	7	7	758870
24	12	1	758870	58	6	7	758870
25	2	4	758870	59	5	7	758870
26	1	4	758870	60	4	7	758870
27	3	4	758870	61	3	7	758870
28	7	4	758870	62	2	7	758870
29	5	4	758870	63	1	7	758870
30	6	4	758870	64	53		755888
31	2	2	758870	65	12		755888
32	8	2	758870	66	21		755888
33	5	2	758870	67	22		755888

ID on Figures	Lot Number	Section Number	DP
68	3		750996
69	13	5	758870
70	12	5	758870
71	11	5	758870
72	10	5	758870
73	6	2	758870
74	7	2	758870
75	4	2	758870
76	3	2	758870
77	13		755888
78	16		755888
79	25		755888
80	52		755888
81	6		756704
82	15		750996
83	56		42273
84	1		756723
85	2		756723
86	4		756723
87	10		48756
88	4		1194089
89	99		1199061
90	5		235380
91	50		1089353



KEY

- Main road
- Local road
- Vehicular track
- Waterbody
- Kosciuszko National Park
- State forest
- Construction envelope

Impacted cadastral lot - land ownership

- Freehold land
- Crown - owned land
- NSW Governement - owned land

Schedule of land and land ownership

Snowy 2.0
Main Works
Figure 1.1

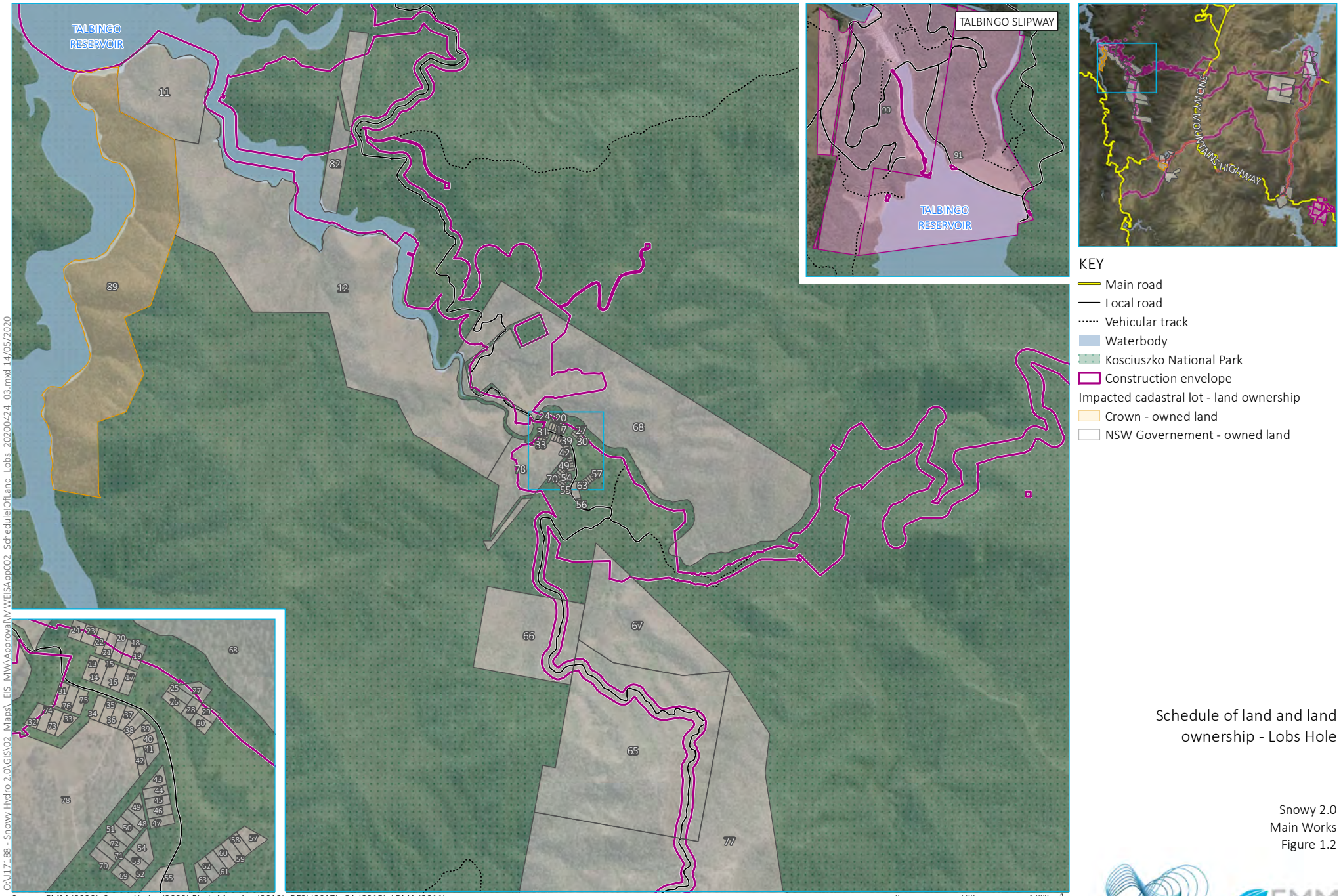
Source: EMM (2020); Snowy Hydro (2020);PhotoMapping (2018); DFSI (2017); GA (2015); LPMA (2011)

0 5 10 km

GDA 1994 MGA Zone 55

N

O:\J17188 - Snowy Hydro 2.0\GIS\02_Maps_EIS_MW\Approval\MWEISApp001_ScheduleOfLand_20200424_03.mxd 14/05/2020

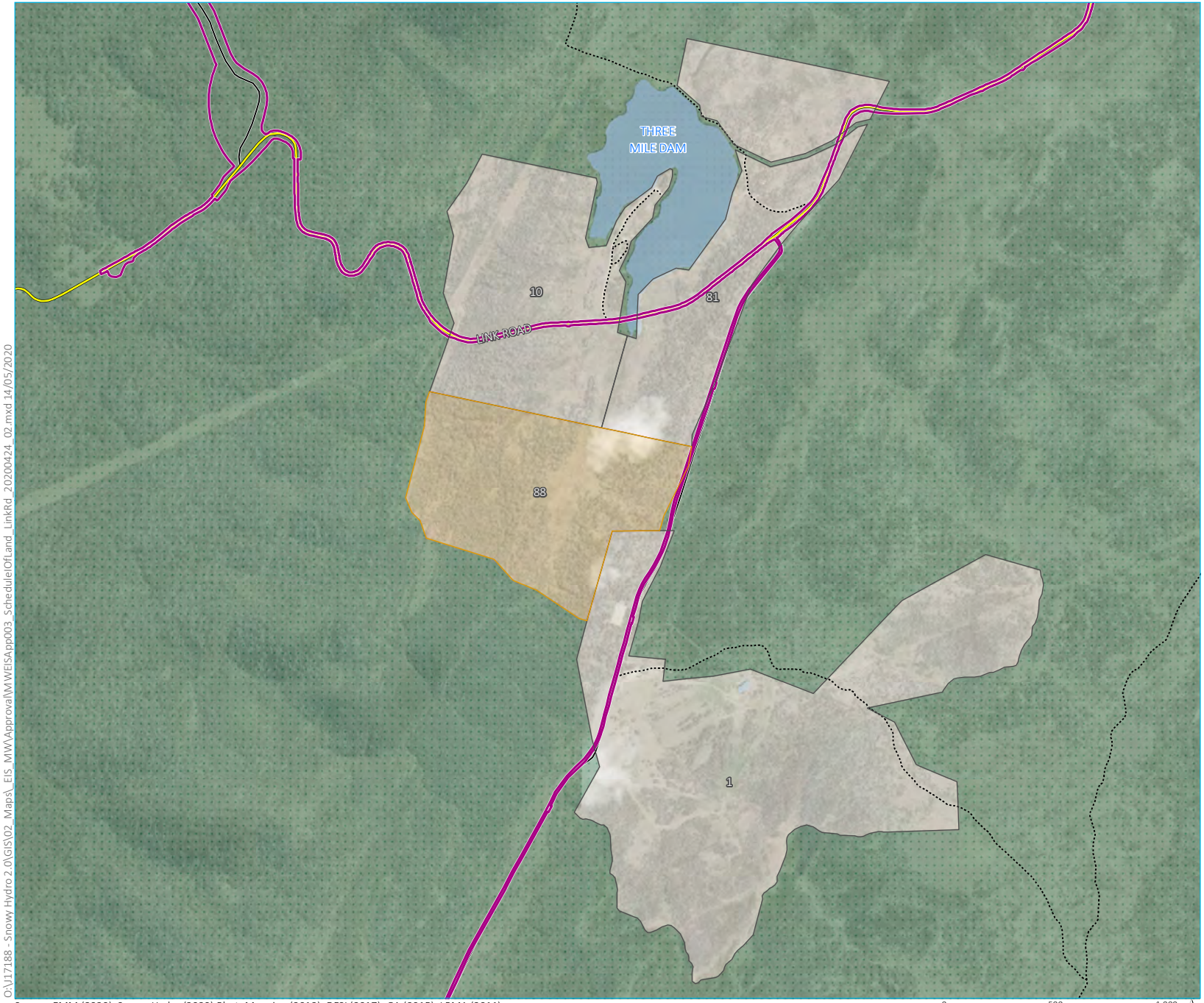


Source: EMM (2020); Snowy Hydro (2020);PhotoMapping (2018); DFSI (2017); GA (2015); LPMA (2011)

O:\171188 - Snowy Hydro 2.0\GIS\02_Maps_EIS_MW\Approval\MWEISApp002_ScheduleIOfLand_Lobs_20200424_03.mxd 14/05/2020

Schedule of land and land ownership - Lobs Hole

Snowy 2.0
Main Works
Figure 1.2



KEY

- Main road
- Local road
- Vehicular track
- Waterbody
- Kosciuszko National Park
- Construction envelope

Impacted cadastral lot - land ownership

- Crown - owned land
- NSW Governement - owned land

Schedule of land and land ownership - Link Road

Snowy 2.0
Main Works
Figure 1.3

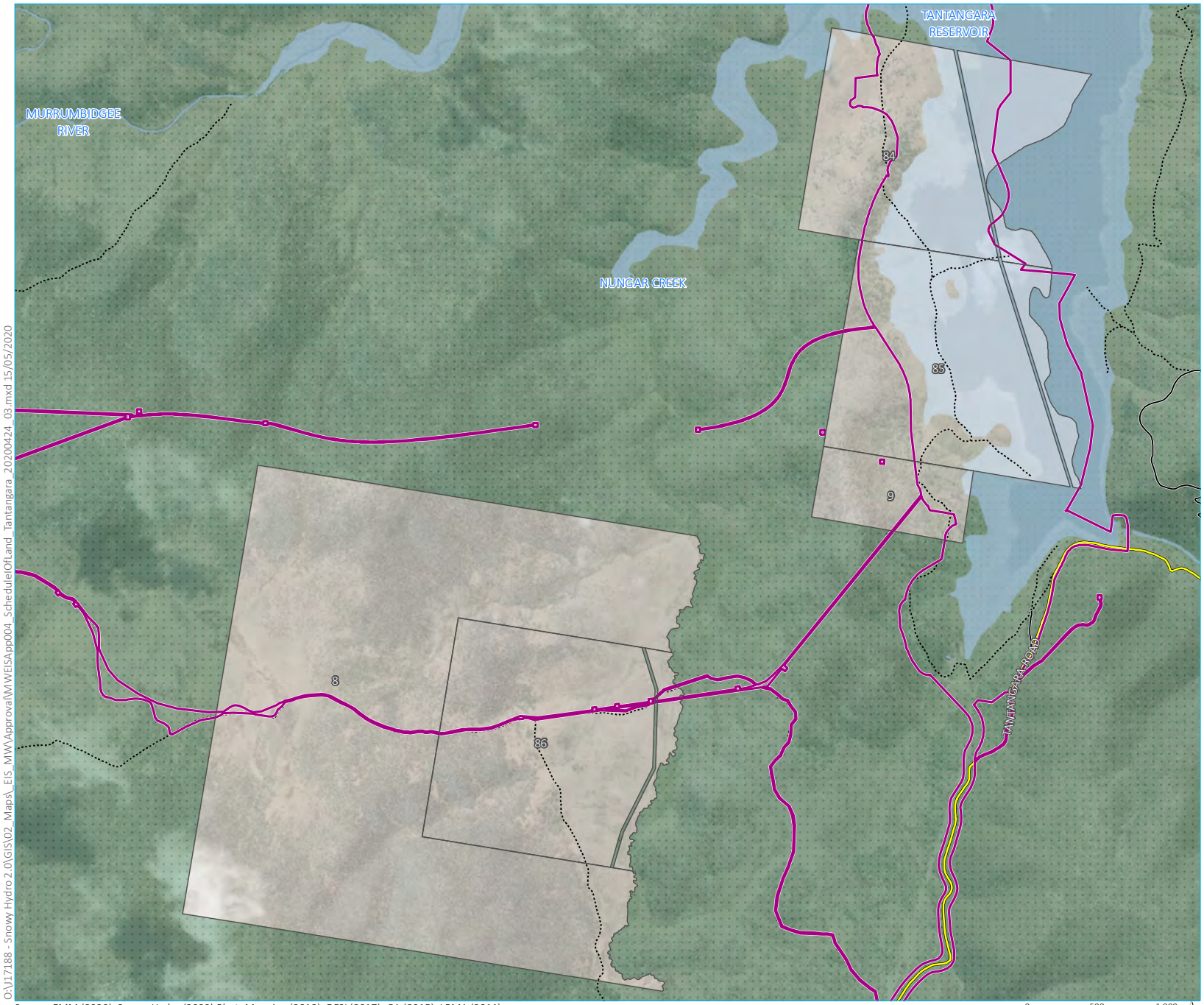
Source: EMM (2020); Snowy Hydro (2020);PhotoMapping (2018); DFSI (2017); GA (2015); LPMA (2011)

0 500 1,000 m

GDA 1994 MGA Zone 55

N

O:\17188 - Snowy Hydro 2.0\GIS\02_Maps_EIS_MW\Approval\MWEISApp003_ScheduleOfLand_LinkRd_20200424_02.mxd 14/05/2020



KEY

- Main road
- Local road
- Vehicular track
- Waterbody
- Kosciuszko National Park
- Construction envelope

Impacted cadastral lot - land ownership

- NSW Governement - owned land

Source: EMM (2020); Snowy Hydro (2020);PhotoMapping (2018); DFSI (2017); GA (2015); LPMA (2011)

0 500 1,000 m

GDA 1994 MGA Zone 55

N

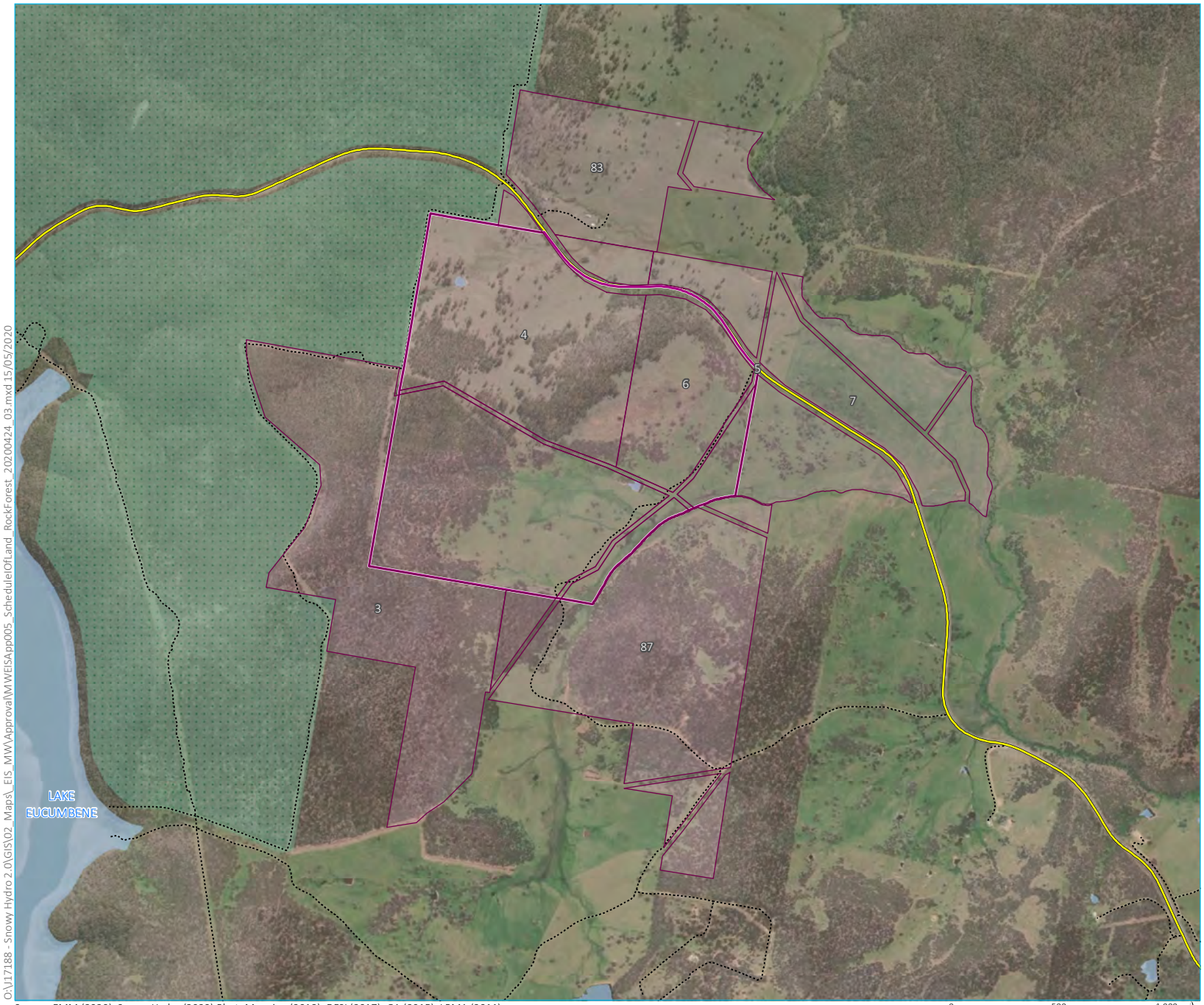
O:\17188 - Snowy Hydro 2.0\GIS\02_Maps_EIS_MW\Approval\MWEISApp004_ScheduleOfLand_Tantangara_20200424_03.mxd 15/05/2020

Schedule of land and land ownership - Tantangara

Snowy 2.0
Main Works
Figure 1.4

snowy 2.0

EMM
creating opportunities



KEY

- Main road
- Vehicular track
- Waterbody
- Kosciuszko National Park
- Construction envelope (1)

Impacted cadastral lot - land ownership

- Freehold land

Schedule of land and land ownership - Rock Forest

Snowy 2.0
Main Works
Figure 1.5

O:\17188 - Snowy Hydro 2.0\GIS\02_Maps_EIS_MW\Approval\MWEISApp005_ScheduleOfLand_RockForest_20200424_03.mxd 15/05/2020

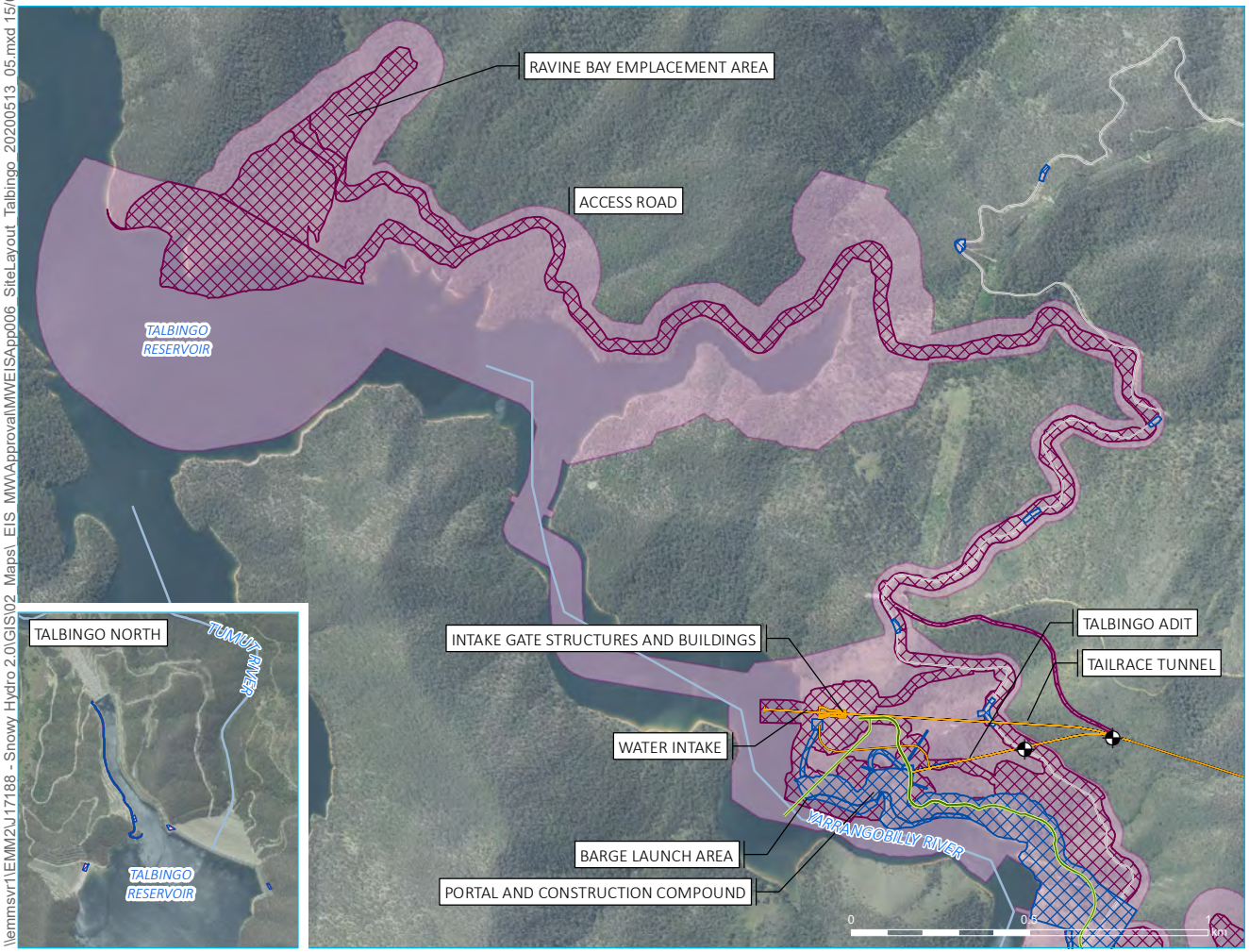
Source: EMM (2020); Snowy Hydro (2020);PhotoMapping (2018); DFSI (2017); GA (2015); LPMA (2011)

0 500 1,000 m

GDA 1994 MGA Zone 55

N

APPENDIX 2 – SITE LAYOUT



KEY

Existing environment

- Main road
- Local road
- Watercourse
- Waterbodies
- Local government area boundary

Snowy 2.0 Main Works operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Geotechnical investigation
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area.
Note that the Approved Exploratory Works disturbance area (SSI 9208) will also be a disturbance area for Main Works, even following surrender of the Exploratory Works Approval. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

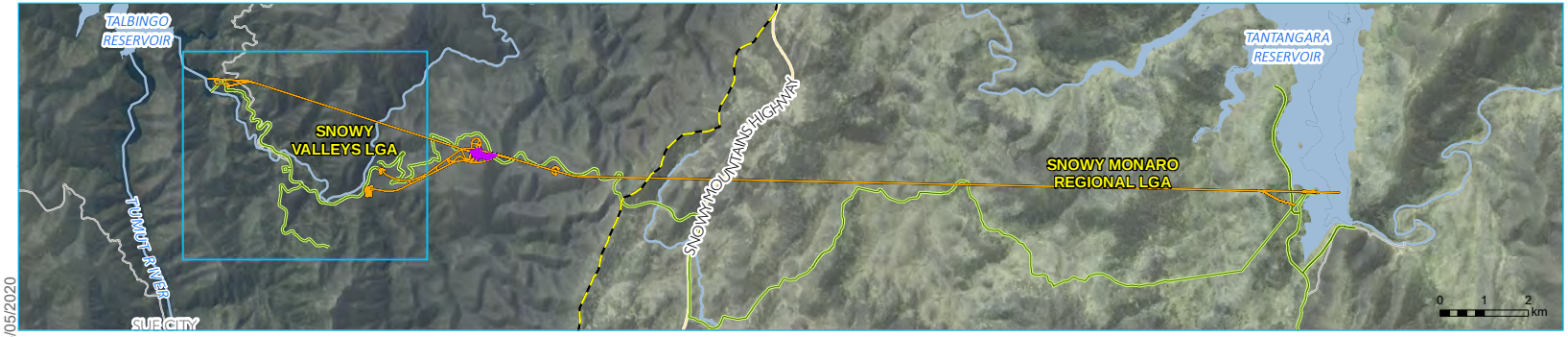
Site layout - Talbingo Reservoir

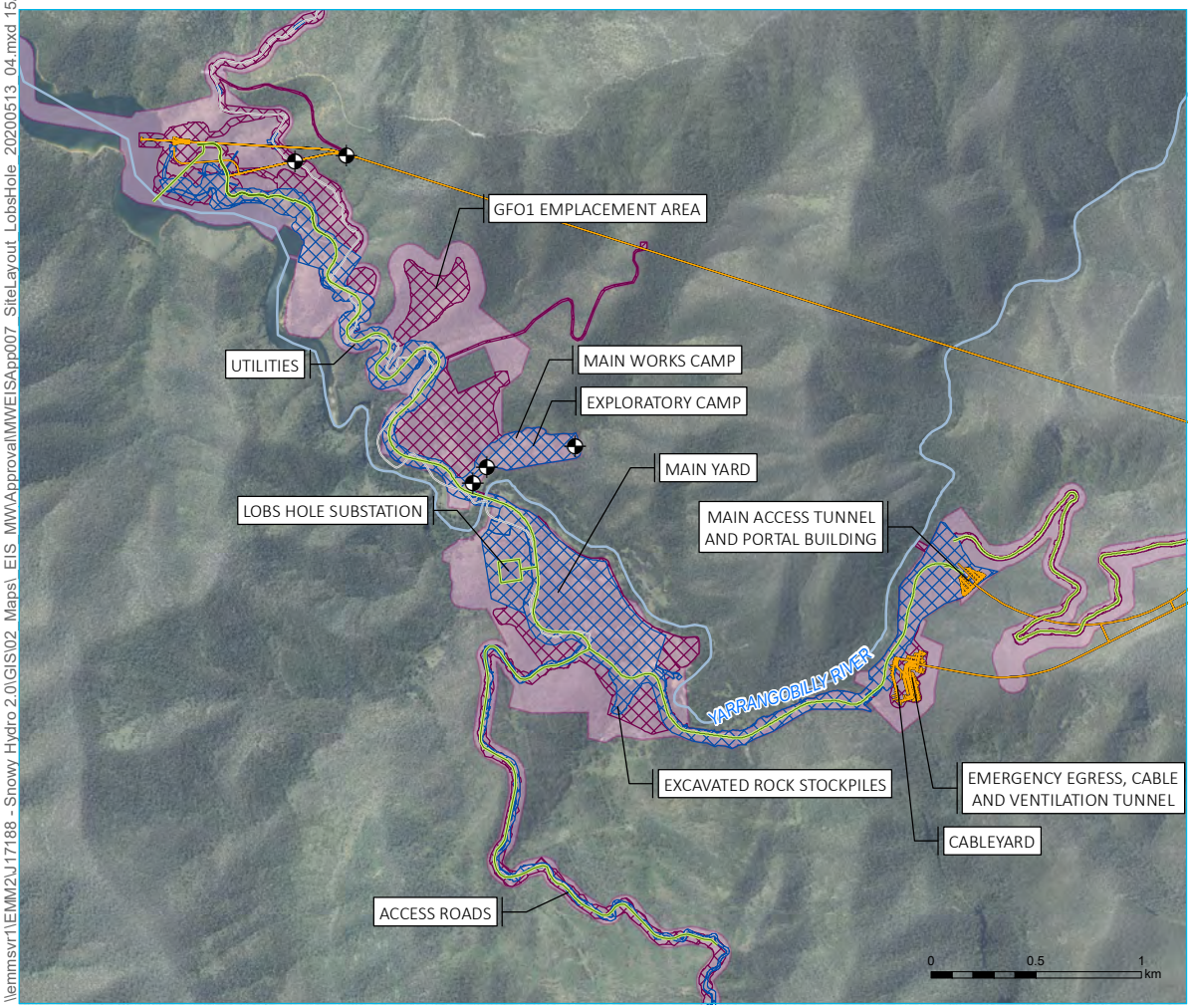
Snowy 2.0
Main Works
Figure 2.1

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

GDA 1994 MGA Zone 55

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp006 SiteLayout Talbingo 20200513 05.mxd 15/05/2020





KEY

Existing environment
- Main road
- Local road
- Watercourse
- Waterbodies
- Local government area boundary

Snowy 2.0 Main Works operational elements
- Tunnels, portals, intakes, shafts
- Power station
- Utilities
- Geotechnical investigation
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area.
Note that the Approved Exploratory Works disturbance area (SSI 9208) will also be a disturbance area for Main Works, even following surrender of the Exploratory Works Approval. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Site layout – Lobs Hole

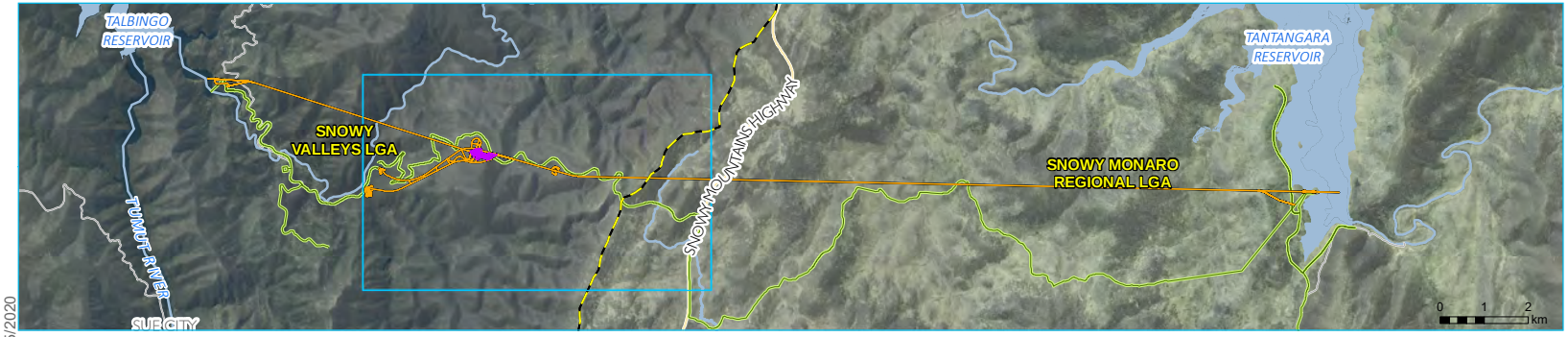
Snowy 2.0
Main Works
Figure 2.2

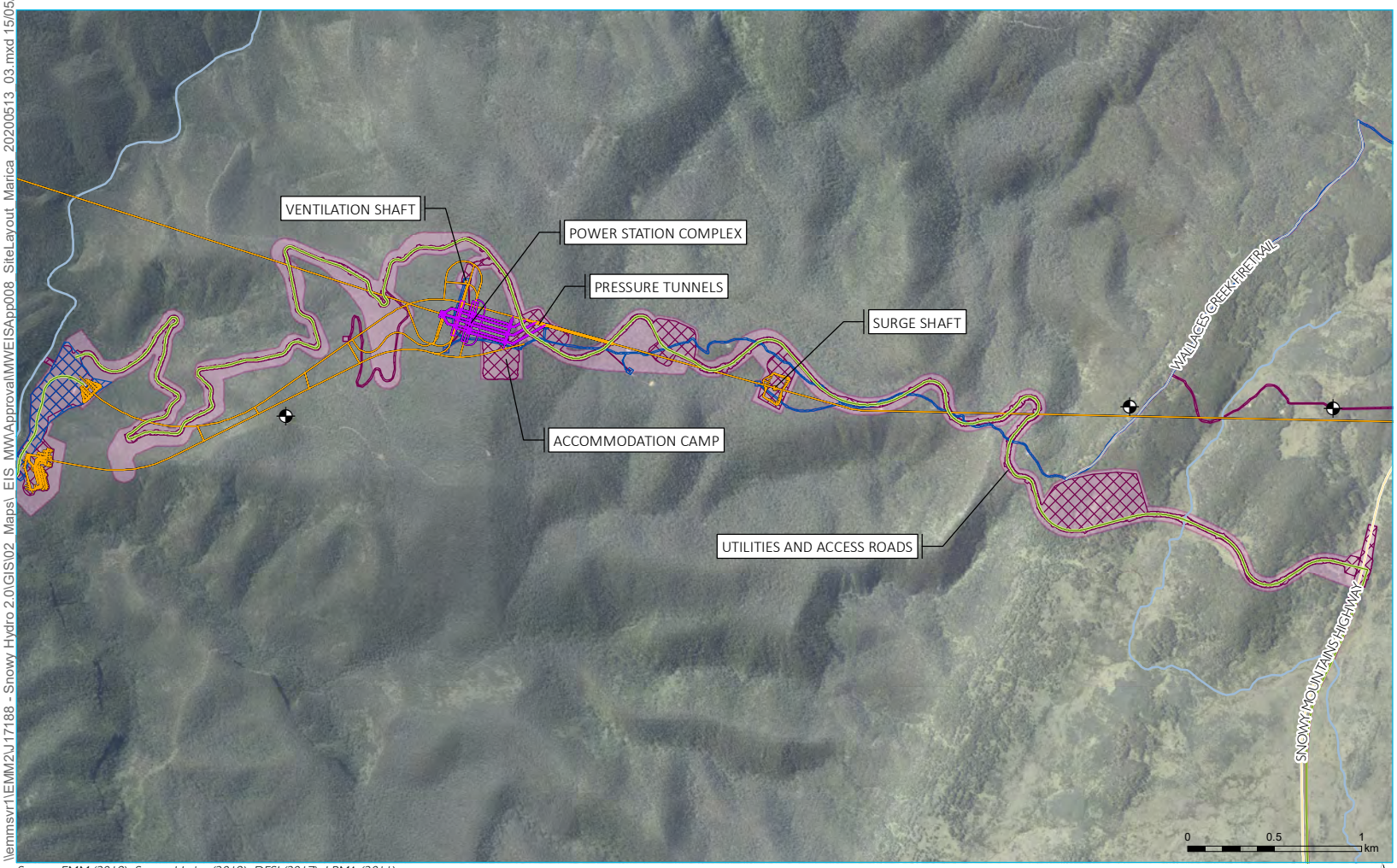
Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

GDA 1994 MGA Zone 55

N

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp007 SiteLayout LobsHole 20200513 04.mxd 15/05/2020





KEY

Existing environment

- Main road
- Local road
- Watercourse
- Waterbodies
- Local government area boundary

Snowy 2.0 Main Works operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities
- Geotechnical investigation
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area.
Note that the Approved Exploratory Works disturbance area (SSI 9208) will also be a disturbance area for Main Works, even following surrender of the Exploratory Works Approval. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Site Layout - Marica

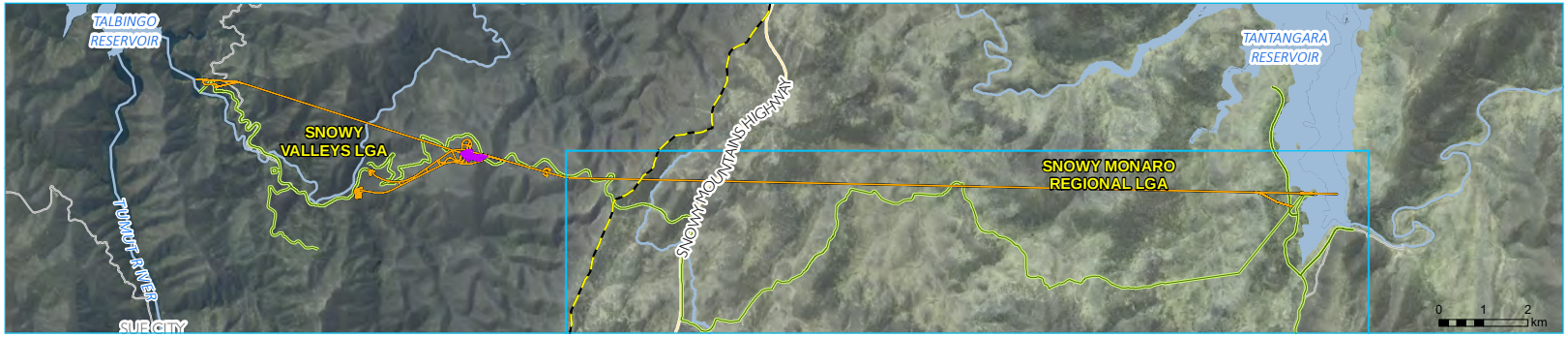
Snowy 2.0
Main Works
Figure 2.3

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

GDA 1994 MGA Zone 55

N

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02_Maps_EIS_MW\ApprovalMWEISApp008_SiteLayout_Marica_20200513_03.mxd 15/05/2020



KEY

Existing environment

- Main road
- Local road
- Watercourse
- Waterbodies
- Local government area boundary

Snowy 2.0 Main Works operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities
- Geotechnical investigation
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area.
Note that the Approved Exploratory Works disturbance area (SSI 9208) will also be a disturbance area for Main Works, even following surrender of the Exploratory Works Approval. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Site layout - Plateau

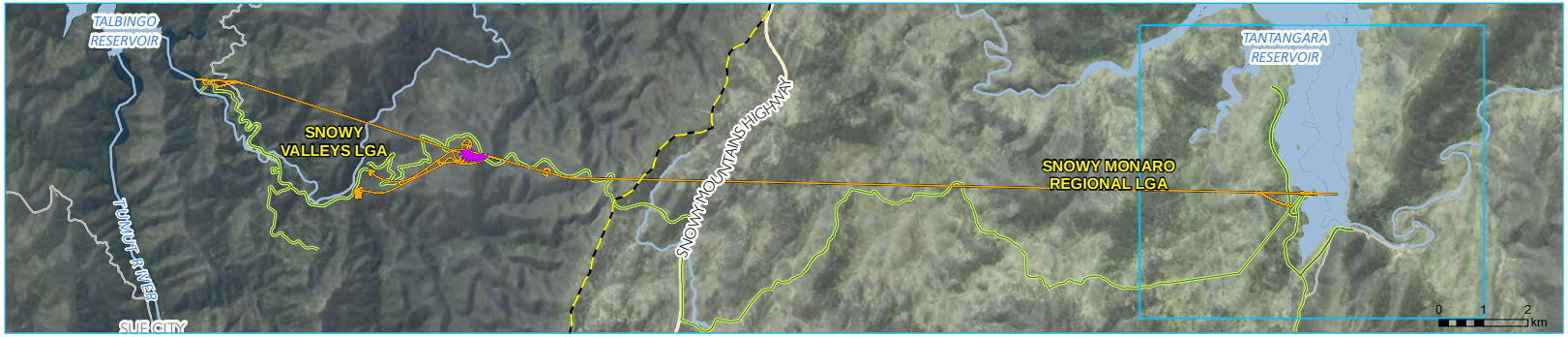
Snowy 2.0
Main Works
Figure 2.4

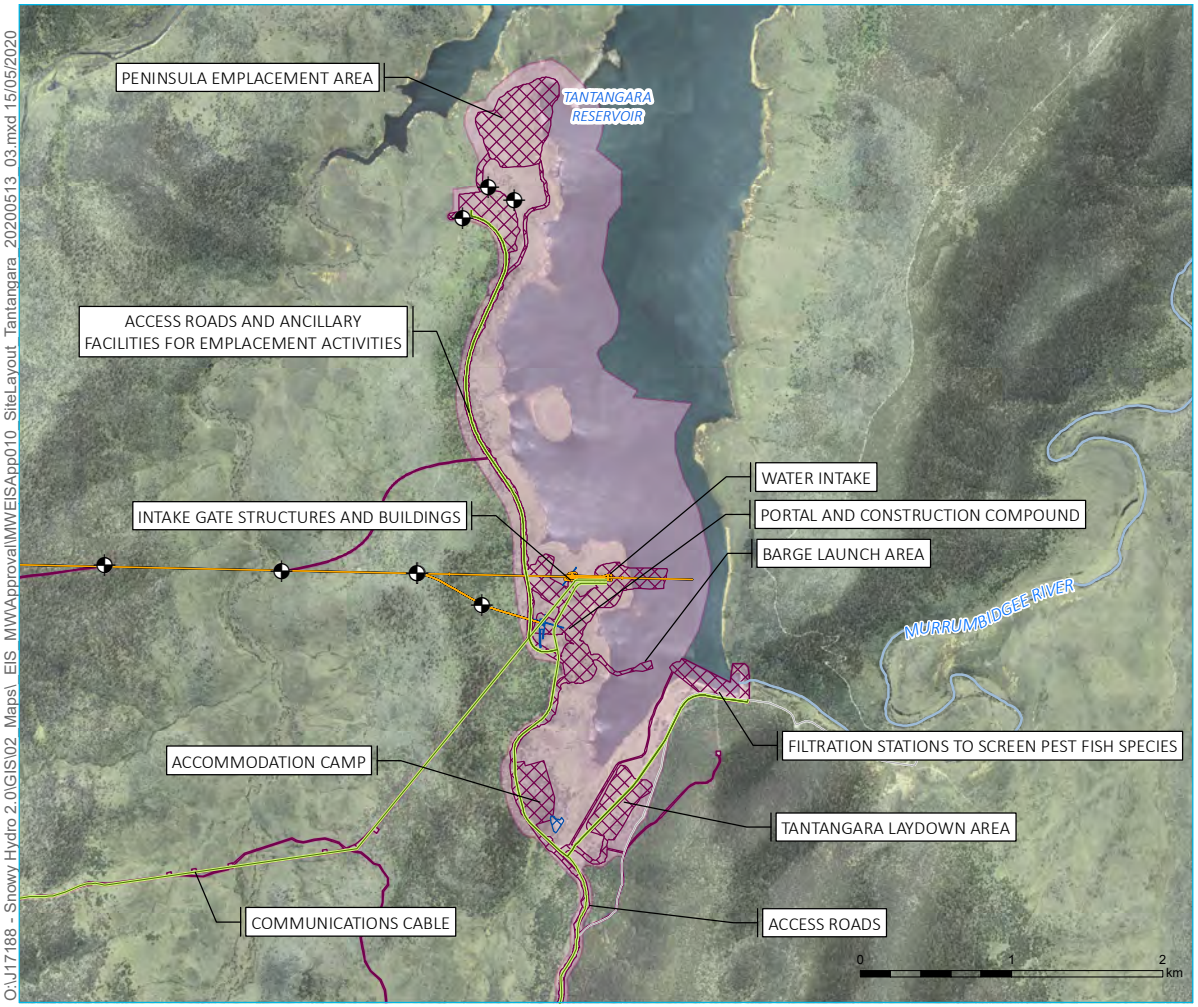
O:\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MWApproval\MWEISApp009 SiteLayout Plateau 20200513 04.mxd 15/05/2020

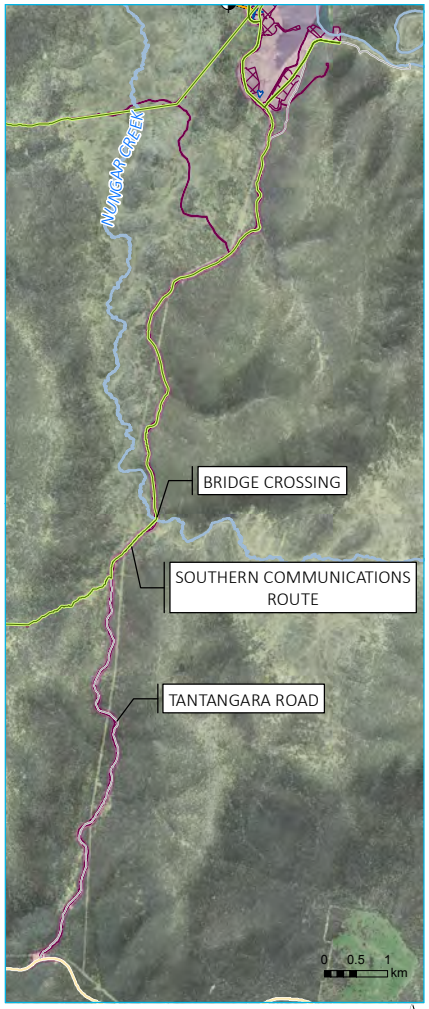
Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

GDA 1994 MGA Zone 55

N







KEY

Existing environment
- Main road
- Local road
- Watercourse
- Waterbodies
- Local government area boundary

Snowy 2.0 Main Works operational elements
- Tunnels, portals, intakes, shafts
- Power station
- Utilities
- Geotechnical investigation
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area.
Note that the Approved Exploratory Works disturbance area (SSI 9208) will also be a disturbance area for Main Works, even following surrender of the Exploratory Works Approval. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Site Layout - Tantangara Reservoir

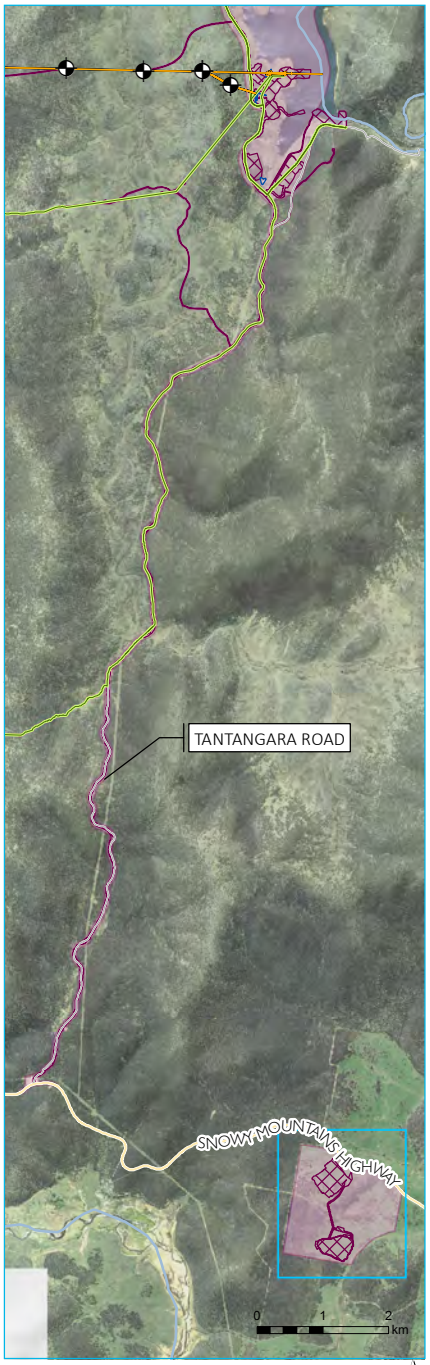
Snowy 2.0
Main Works
Figure 2.5

O:\J17188 - Snowy Hydro 2.0\GIS\02_Maps_EIS_MWApproval\MWEISApp010_SiteLayout_Tantangara_20200513_03.mxd 15/05/2020

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

GDA 1994 MGA Zone 55

N



KEY

Existing environment
- Main road
- Local road
- Watercourse

Snowy 2.0 Main Works operational elements
- Tunnels, portals, intakes, shafts
- Utilities
- Geotechnical investigation
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area.
Note that the Approved Exploratory Works disturbance area (SSI 9208) will also be a disturbance area for Main Works, even following surrender of the Exploratory Works Approval. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Site layout - Rock Forest

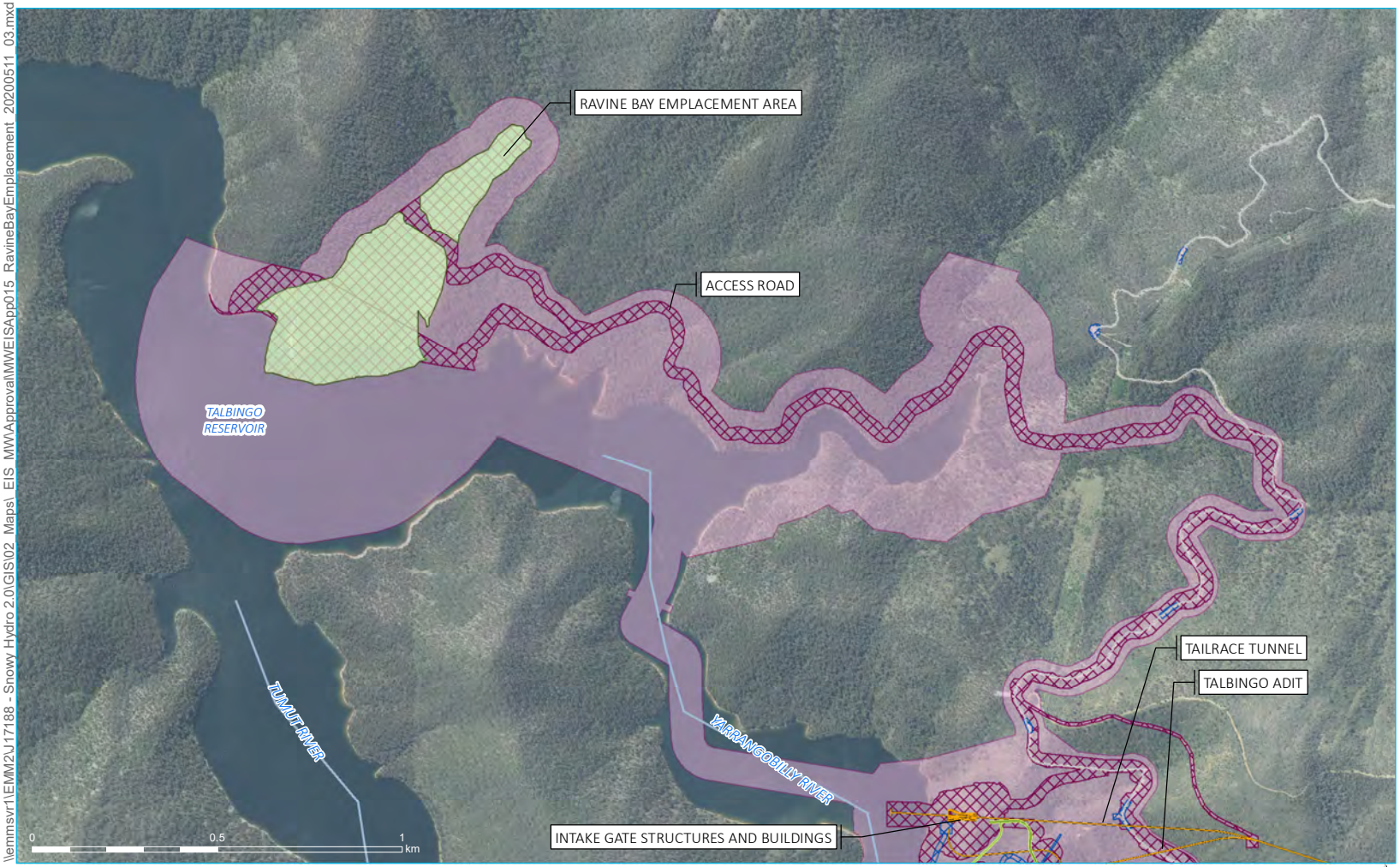
Snowy 2.0
Main Works
Figure 2.6

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

GDA 1994 MGA Zone 55

N

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp011 SiteLayout RockForest 20200513 02.mxd 15/05/2020



KEY

- Emplacement area

Existing environment

- Main road
- Local road
- Watercourse
- Waterbodies
- Local government area boundary

Snowy 2.0 Main Works operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area.

Ravine Bay emplacement area

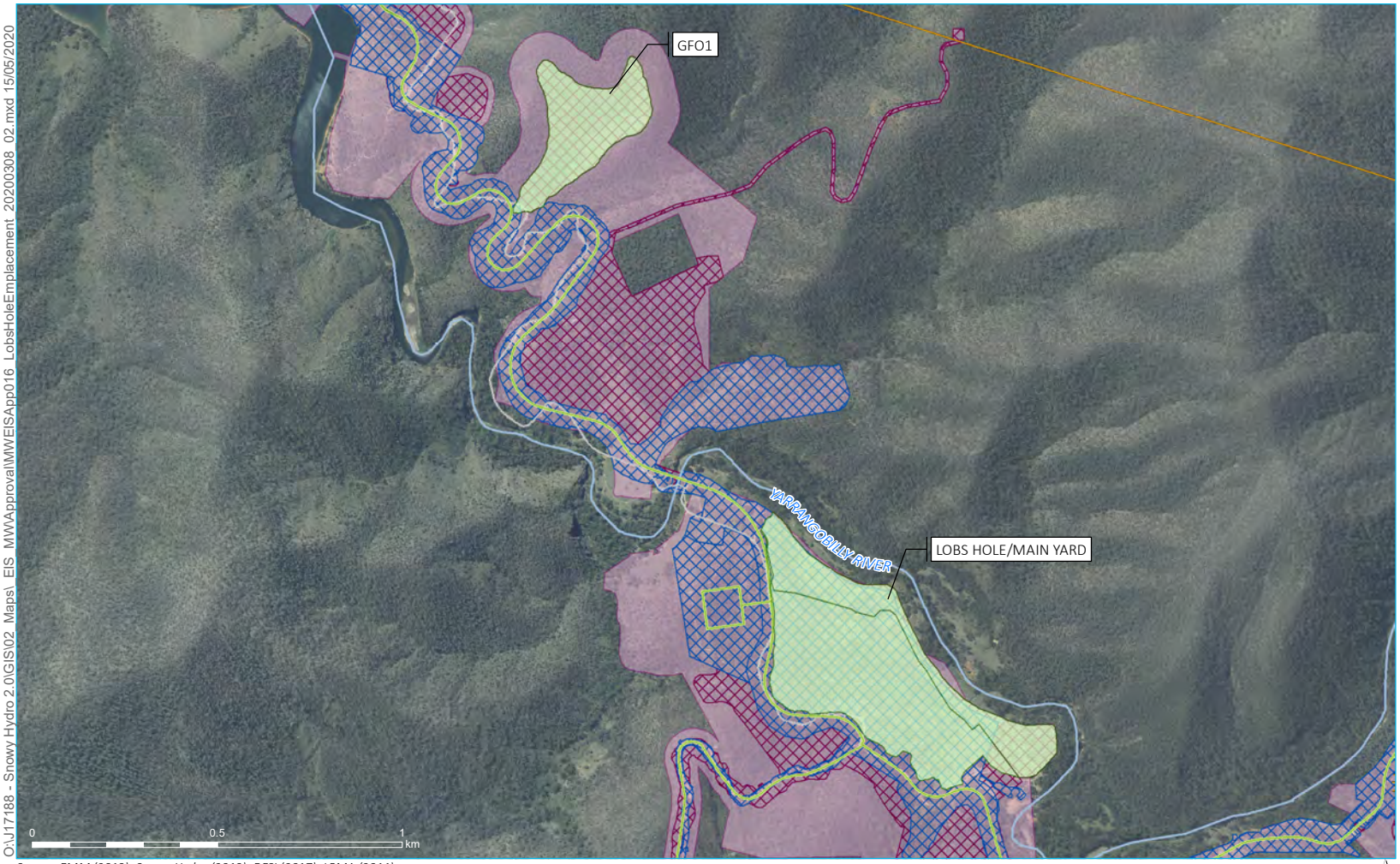
Snowy 2.0
Main Works
Figure 2.10

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

GDA 1994 MGA Zone 55

N

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp015 RavineBayEmplacement 20200511 03.mxd 15/05/2020



KEY

- Emplacement area

Existing environment

- Main road
- Local road
- Watercourse
- Waterbodies
- Local government area boundary

Snowy 2.0 Main Works operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area.

Lobs Hole emplacement area

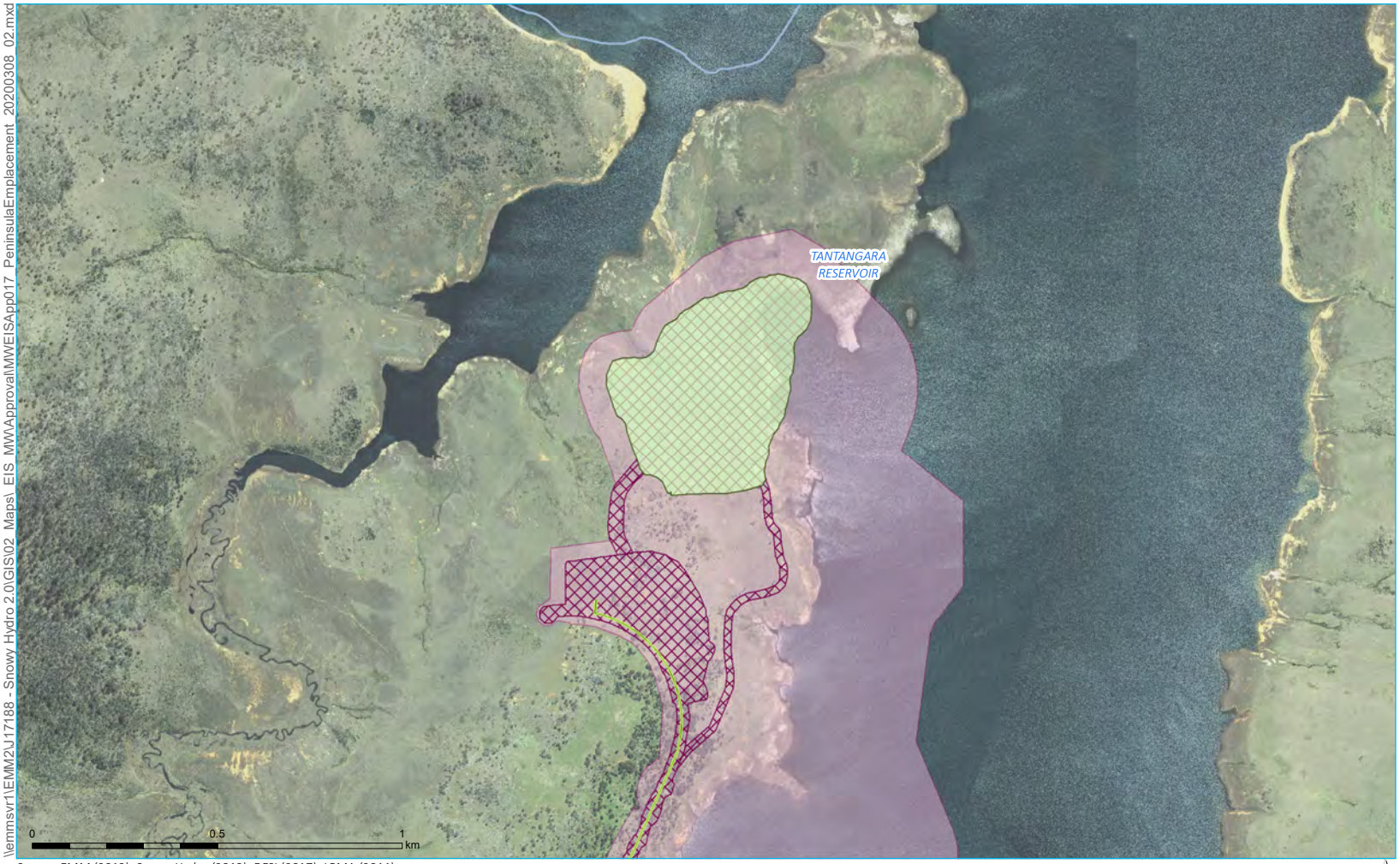
Snowy 2.0
Main Works
Figure 2.11

O:\J17188 - Snowy Hydro 2.0\GIS\02_Maps_EIS_MWApproval\MWEISApp016_LobsHoleEmplacement_20200308_02.mxd 15/05/2020

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

GDA 1994 MGA Zone 55

N



KEY

- Emplacement area

Existing environment

- Main road
- Local road
- Watercourse
- Waterbodies
- Local government area boundary

Snowy 2.0 Main Works operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area.

Tantangara Peninsula emplacement area

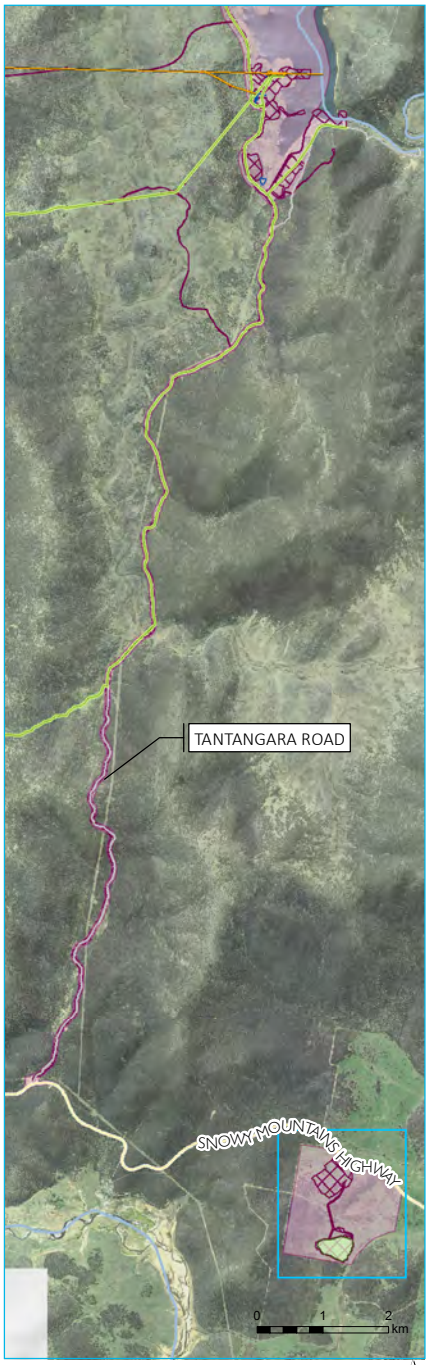
Snowy 2.0
Main Works
Figure 2.12

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

GDA 1994 MGA Zone 55

N

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp017 PeninsulaEmplacement 20200308 02.mxd 15/05/2020



KEY

- Emplacement area

Existing environment

- Main road
- Local road
- Watercourse

Snowy 2.0 Main Works operational elements

- Tunnels, portals, intakes, shafts
- Utilities
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is the extent of construction works required to build Snowy 2.0. The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that there will be some minor amendments to the disturbance area.

Rock Forest emplacement area

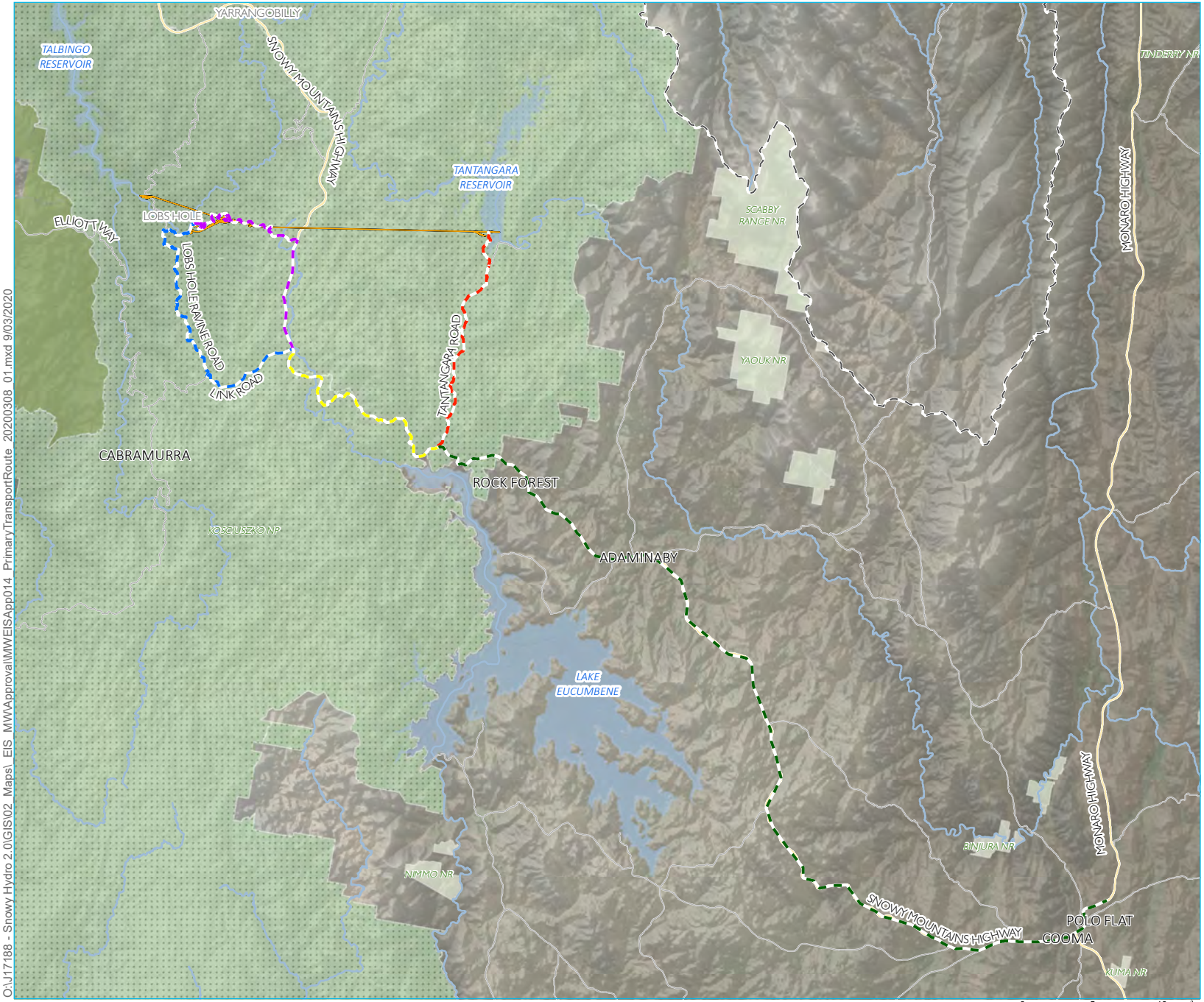
Snowy 2.0
Main Works
Figure 2.13

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

GDA 1994 MGA Zone 55

N

O:\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MWApproval\MWEISApp018 RockForestEmplacement 20200308 02.mxd 15/05/2020



KEY

Primary transport route

- All site access from Cooma to KNP and Rock Forest
- Route to Tantangara Reservoir
- Route to Talbingo Reservoir and Lobs Hole
- Route to Marica and Lobs Hole
- Route to Marica, and alternative access to Lobs Hole

Snowy 2.0 Main Works operational elements

- Tunnels, portals, intakes, shafts
- Power station

Existing environment

- Main road
- Local road
- Watercourse
- Waterbodies
- Kosciuszko National Park
- NPWS reserve
- State forest
- State boundary

Primary transport routes

Snowy 2.0
Main Works
Figure 2.9

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

O:\J17188 - Snowy Hydro 2.0\GIS\02_Maps_EIS_MWApproval\MWEISApp014_PrimaryTransportRoute_20200308_01.mxd 9/03/2020

KEY

Restricted access

- No access during construction
- Temporary/short-term closure during construction
- Temporary/short-term closure during road upgrades

Existing environment

- Main road
- Local road
- Watercourse
- Waterbodies

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

0 2.5 5 km

GDA 1994 MGA Zone 55

N

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MWApproval\MWEISApp012 PublicAccess Construction 20200508 02.mxd 8/05/2020

Public accessibility during construction

Snowy 2.0
Main Works
Figure 2.7

snowy2.0

EMM
creating opportunities

KEY

Restricted access post-construction

- Access tracks rehabilitated on project completion
- Full access reinstated
- Partial access - no public access to infrastructure areas
- No public access

Existing environment

- Main road
- Local road
- Watercourse
- Waterbodies

Public accessibility during operations

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

0 2.5 5 km

GDA 1994 MGA Zone 55

N

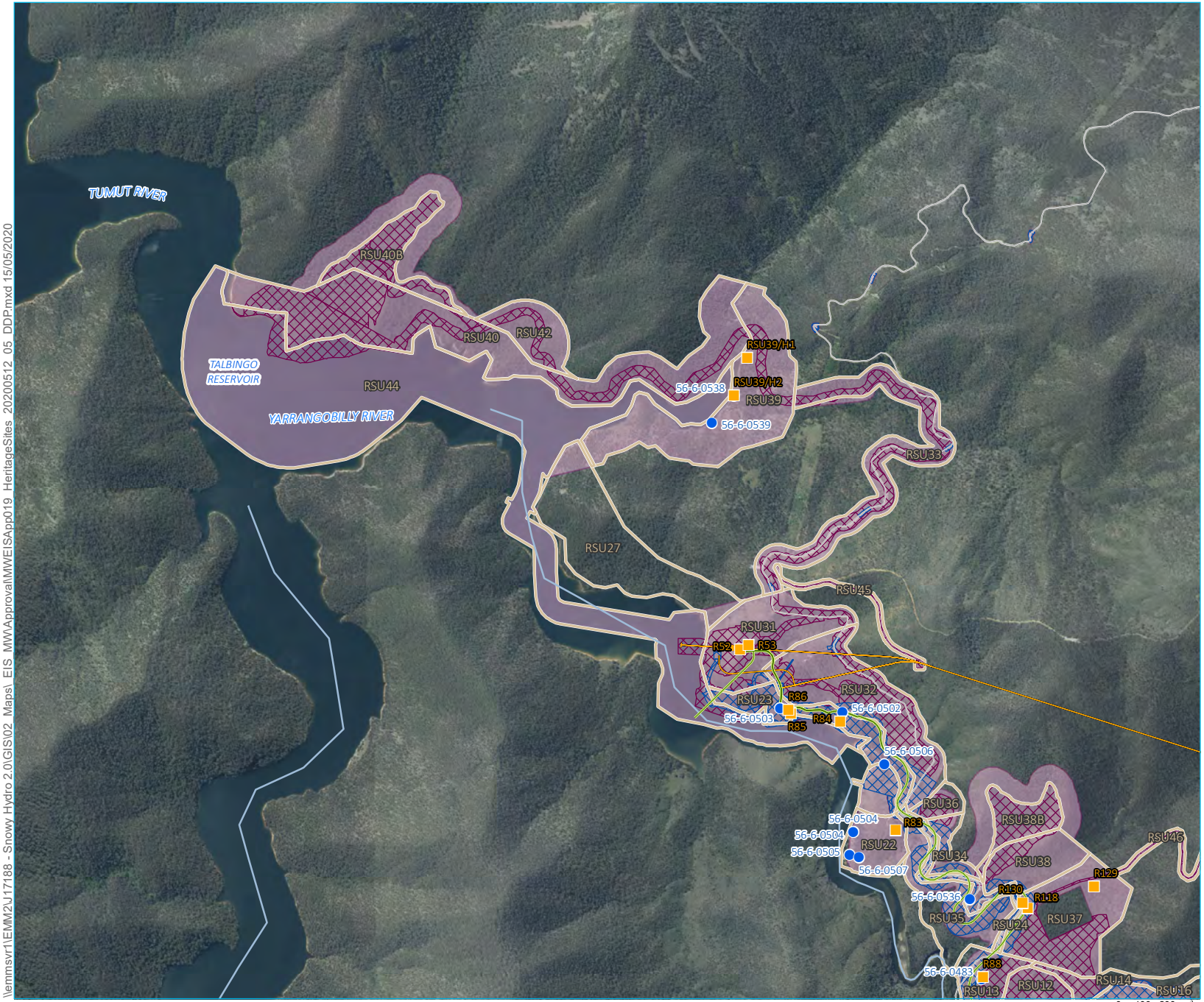
Snowy 2.0
Main Works
Figure 2.8

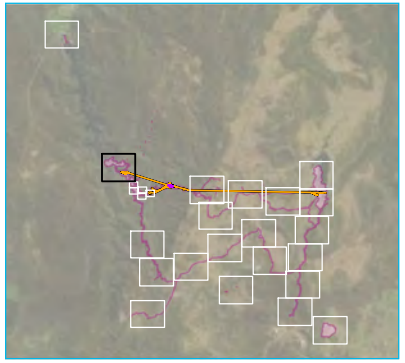
snowy 2.0

EMM creating opportunities

O:\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp013 PublinAccess Oporation 20200308 01.mxd 9/03/2020

APPENDIX 3 – HERITAGE FIGURES





KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

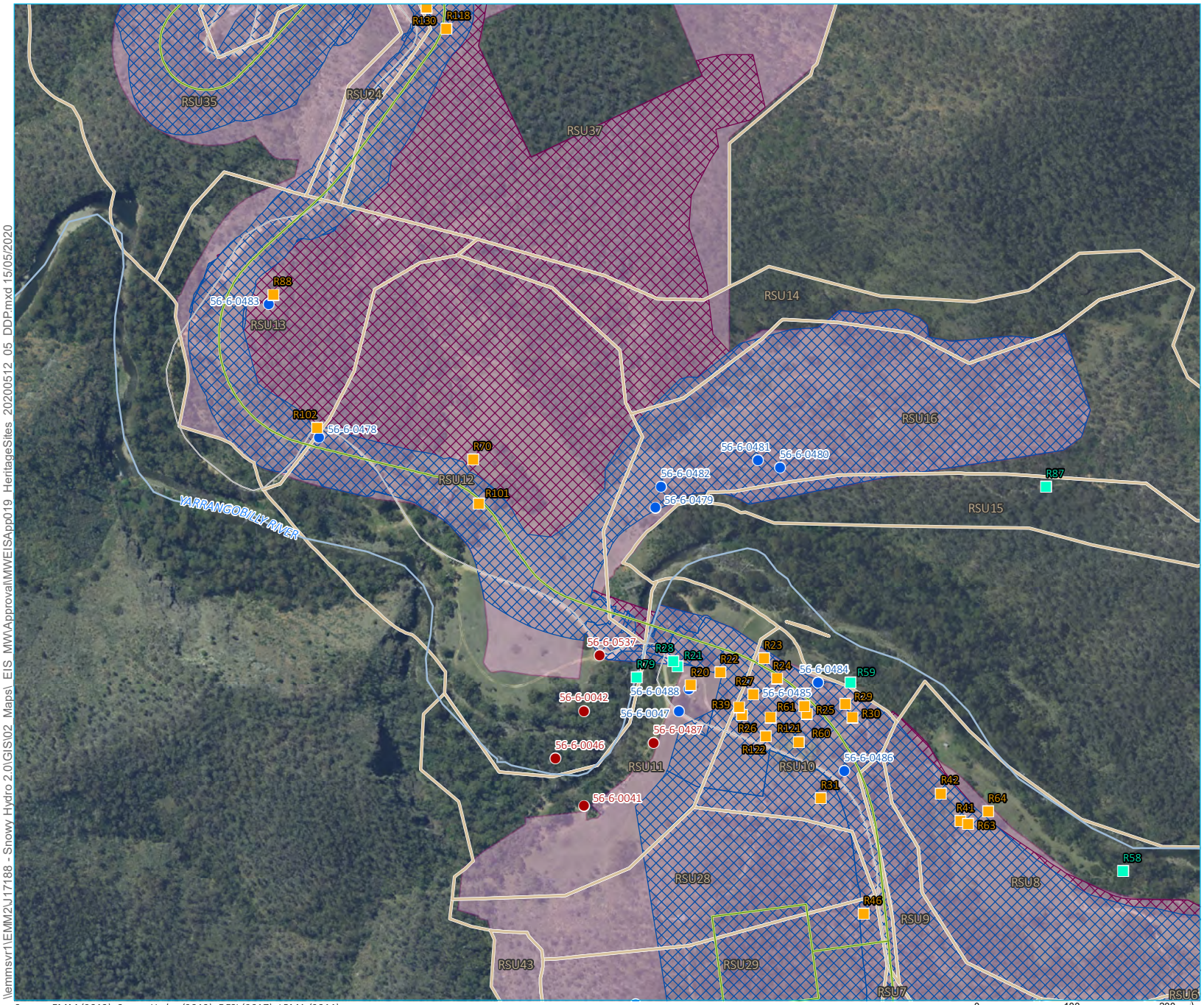
Aboriginal and historic heritage sites

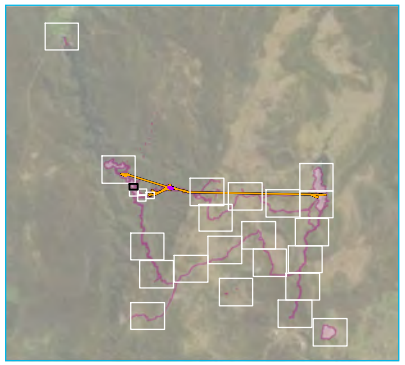
Snowy 2.0
Main Works
Figure 3.1.1

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02_Maps_EIS_MW\ApprovalMWEISApp019_HeritageSites_20200512_05_DDP.mxd 15/05/2020

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

0 100 200 m
GDA 1994 MGA Zone 55
N





KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Aboriginal and historic heritage sites

Snowy 2.0
Main Works
Figure 3.1.2

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp019 HeritageSites 20200512 05 DDP.mxd 15/05/2020

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

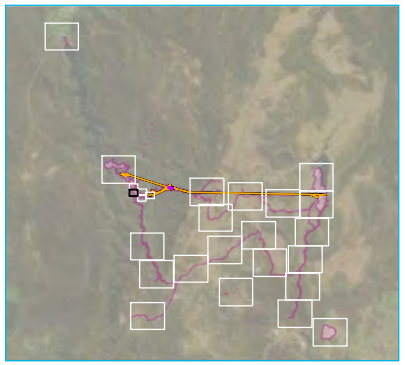
0 100 200 m

GDA 1994 MGA Zone 55

N

snowy 2.0

EMM creating opportunities



KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

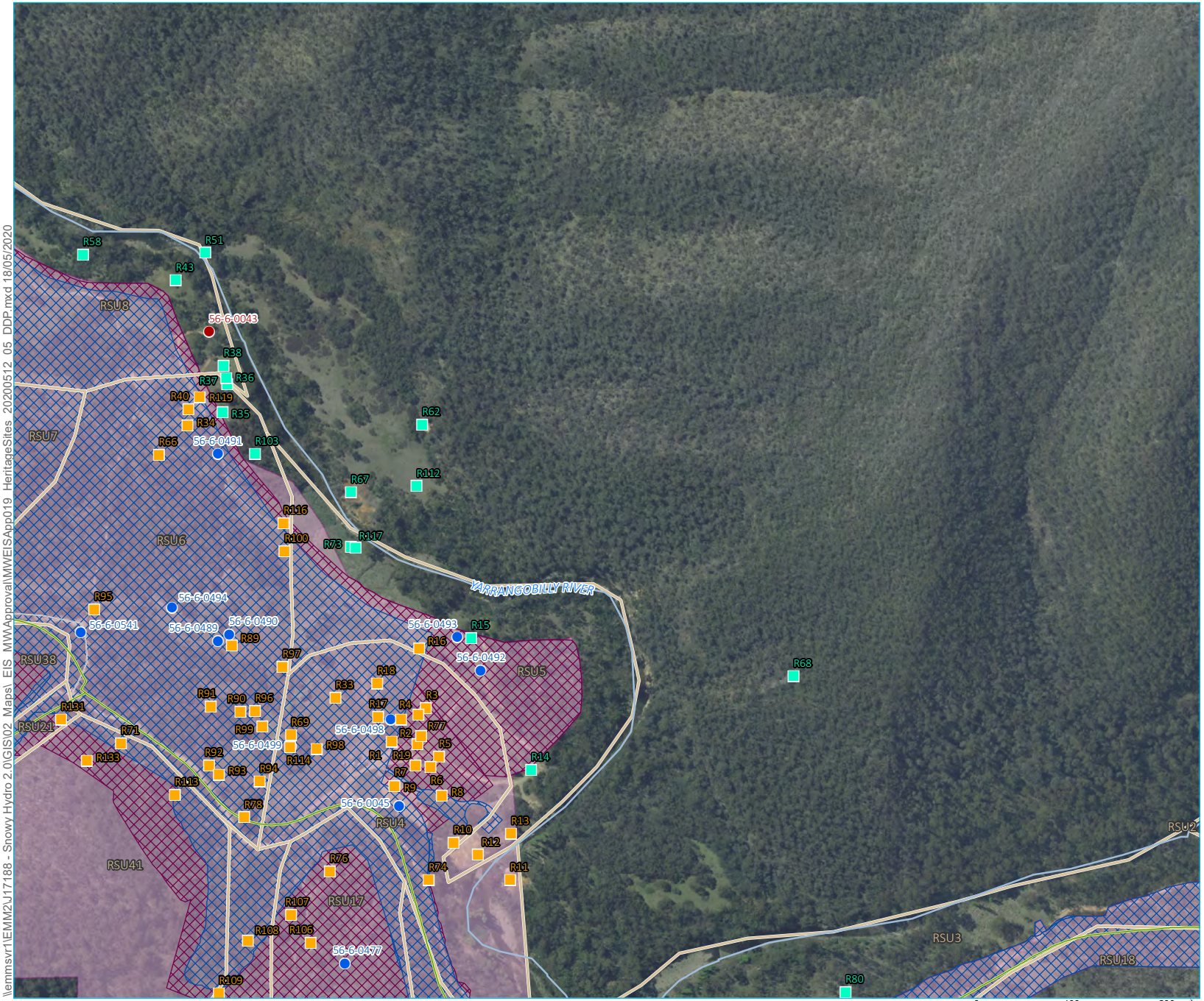
The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

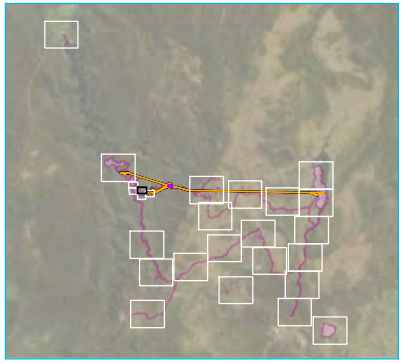
Aboriginal and historic heritage sites

Snowy 2.0
Main Works
Figure 3.1.3

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp019 HeritageSites 20200512 05 DDP.mxd 15/05/2020





KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Aboriginal and historic heritage sites

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

0 100 200 m

GDA 1994 MGA Zone 55

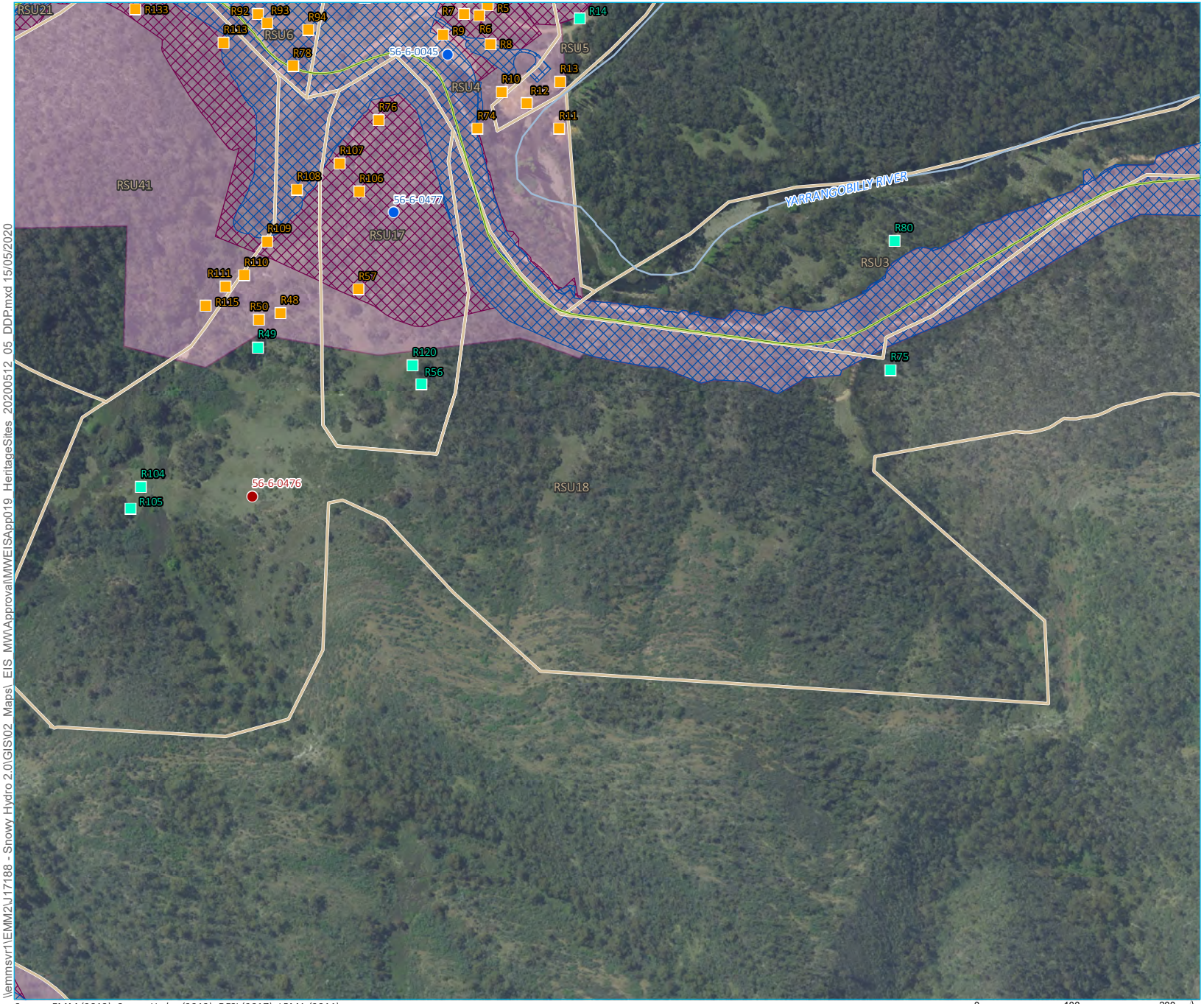
N

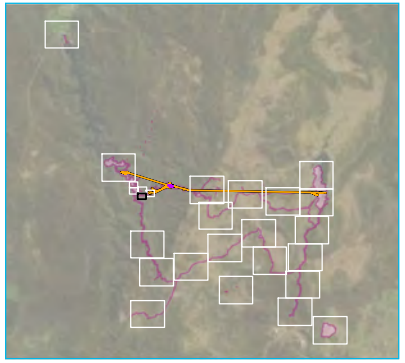
Snowy 2.0
Main Works
Figure 3.1.4

snowy2.0

EMM creating opportunities

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MWApproval\MWEISApp019 HeritageSites 20200512 05 DDP.mxd 18/05/2020





KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

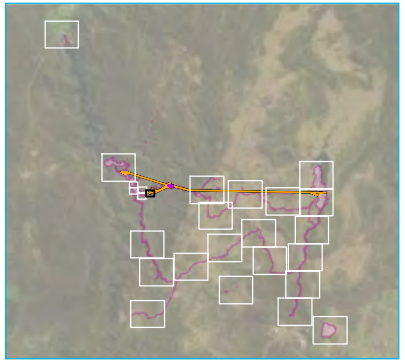
The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Aboriginal and historic heritage sites

Snowy 2.0
Main Works
Figure 3.1.5

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp019 HeritageSites 20200512 05 DDP.mxd 15/05/2020



KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Aboriginal and historic heritage sites

Snowy 2.0
Main Works
Figure 3.1.6

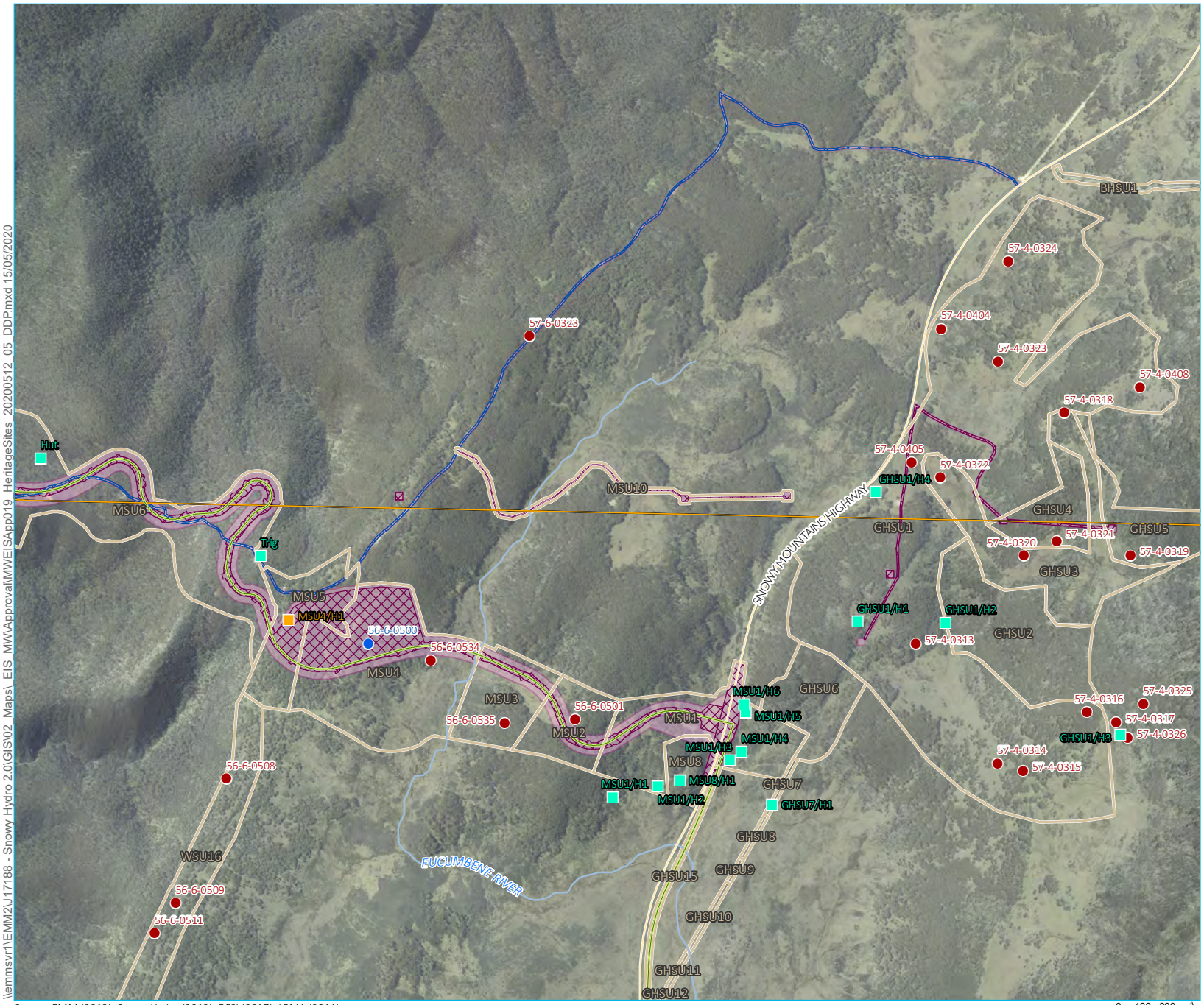
Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

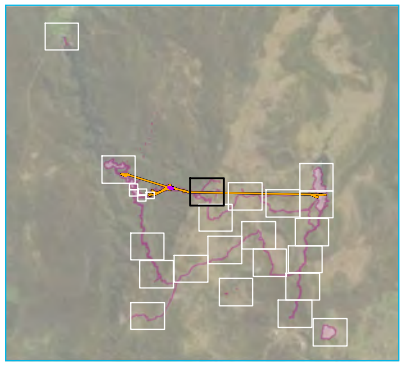
0 100 200 m

GDA 1994 MGA Zone 55

N

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp019 HeritageSites 20200512 05 DDP.mxd 15/05/2020





KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

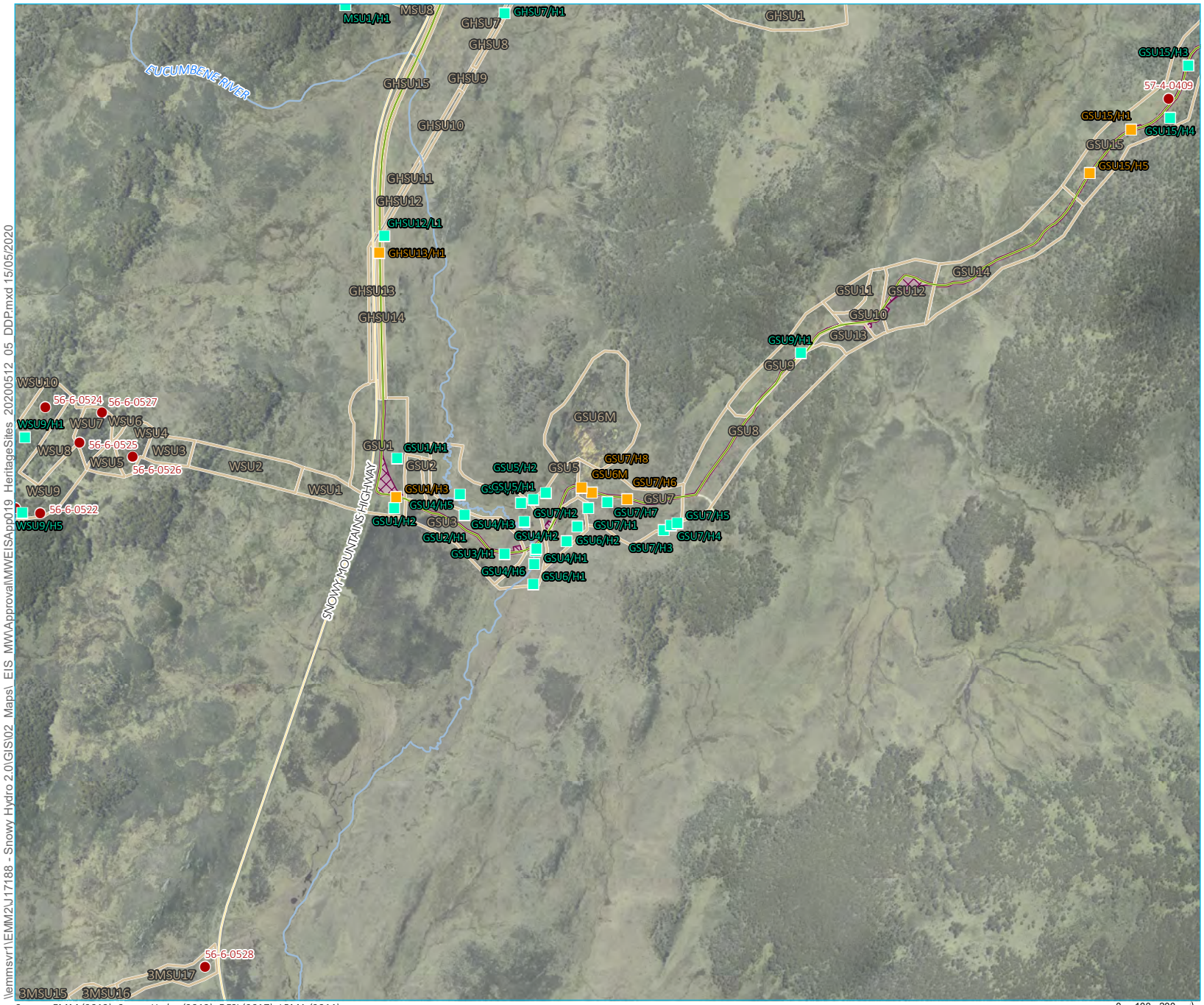
Aboriginal and historic heritage sites

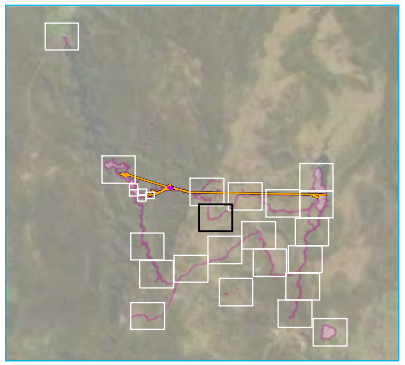
Snowy 2.0
Main Works
Figure 3.1.7

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp019 HeritageSites 20200512 05 DDP.mxd 15/05/2020

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

0 100 200 m
GDA 1994 MGA Zone 55
N





KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Aboriginal and historic heritage sites

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

0 100 200 m

GDA 1994 MGA Zone 55

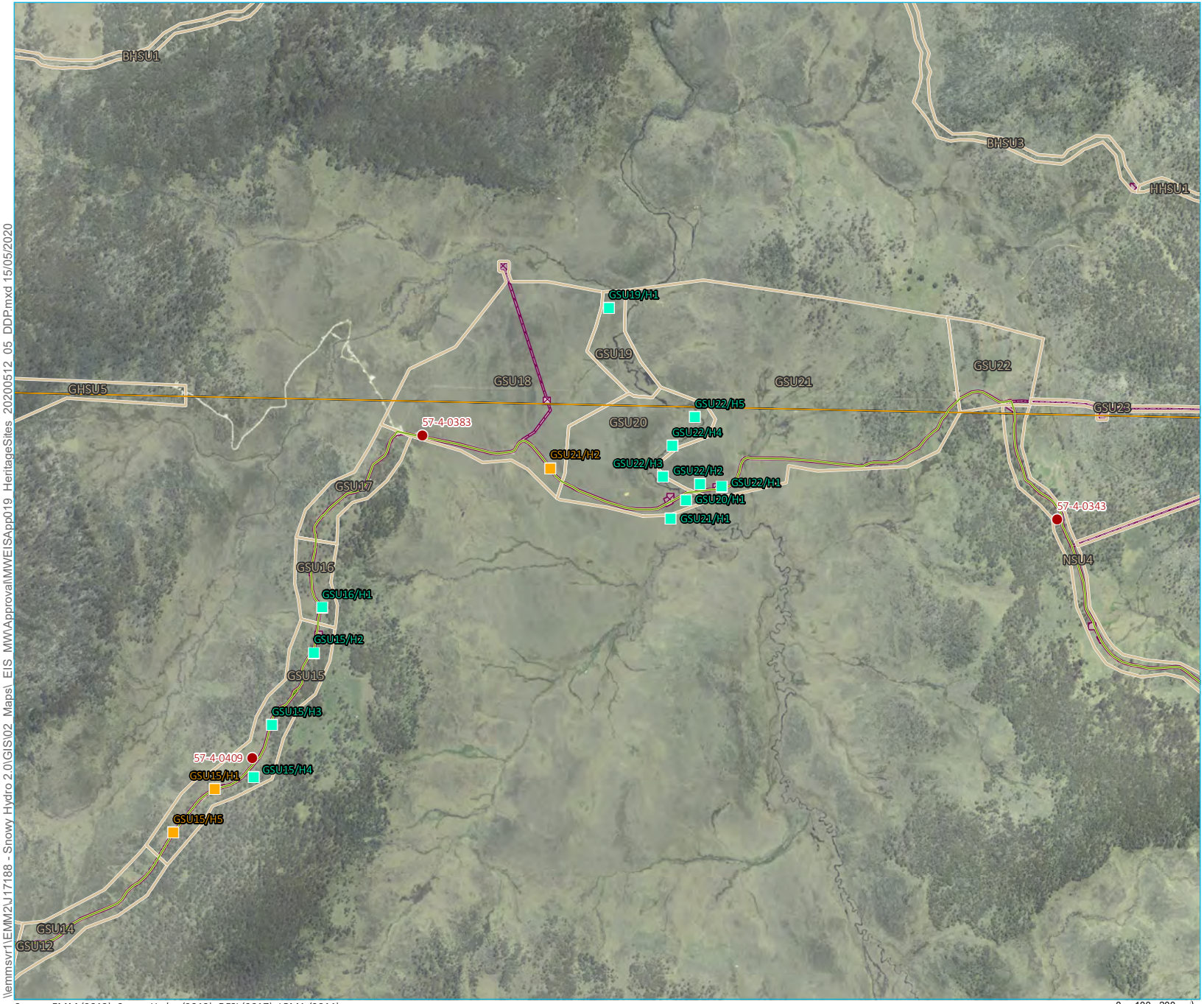
N

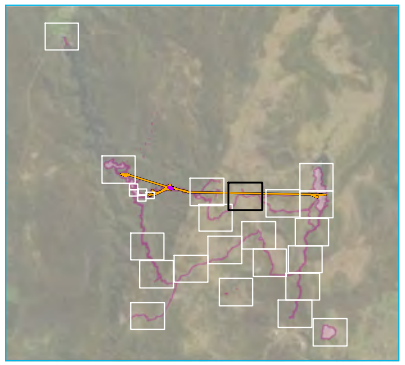
Snowy 2.0
Main Works
Figure 3.1.8

snowy 2.0

EMM creating opportunities

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp019 HeritageSites 20200512 05 DDP.mxd 15/05/2020





KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Aboriginal and historic heritage sites

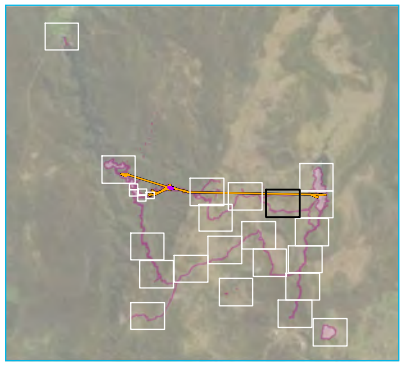
Snowy 2.0
Main Works
Figure 3.1.9

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

0 100 200 m
GDA 1994 MGA Zone 55

N

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp019 HeritageSites 20200512 05 DDP.mxd 15/05/2020



KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Aboriginal and historic heritage sites

Snowy 2.0
Main Works
Figure 3.1.10

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

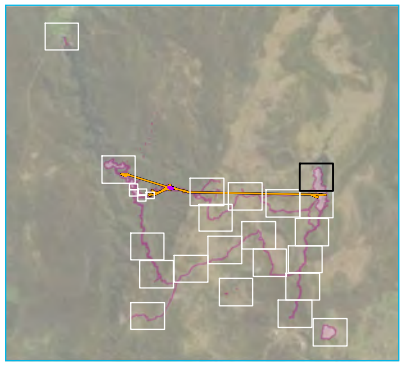
0 100 200 m
GDA 1994 MGA Zone 55

N

snowy 2.0

EMM creating opportunities

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp019 HeritageSites 20200512 05 DDP.mxd 15/05/2020



KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Aboriginal and historic heritage sites

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

0 100 200 m

GDA 1994 MGA Zone 55

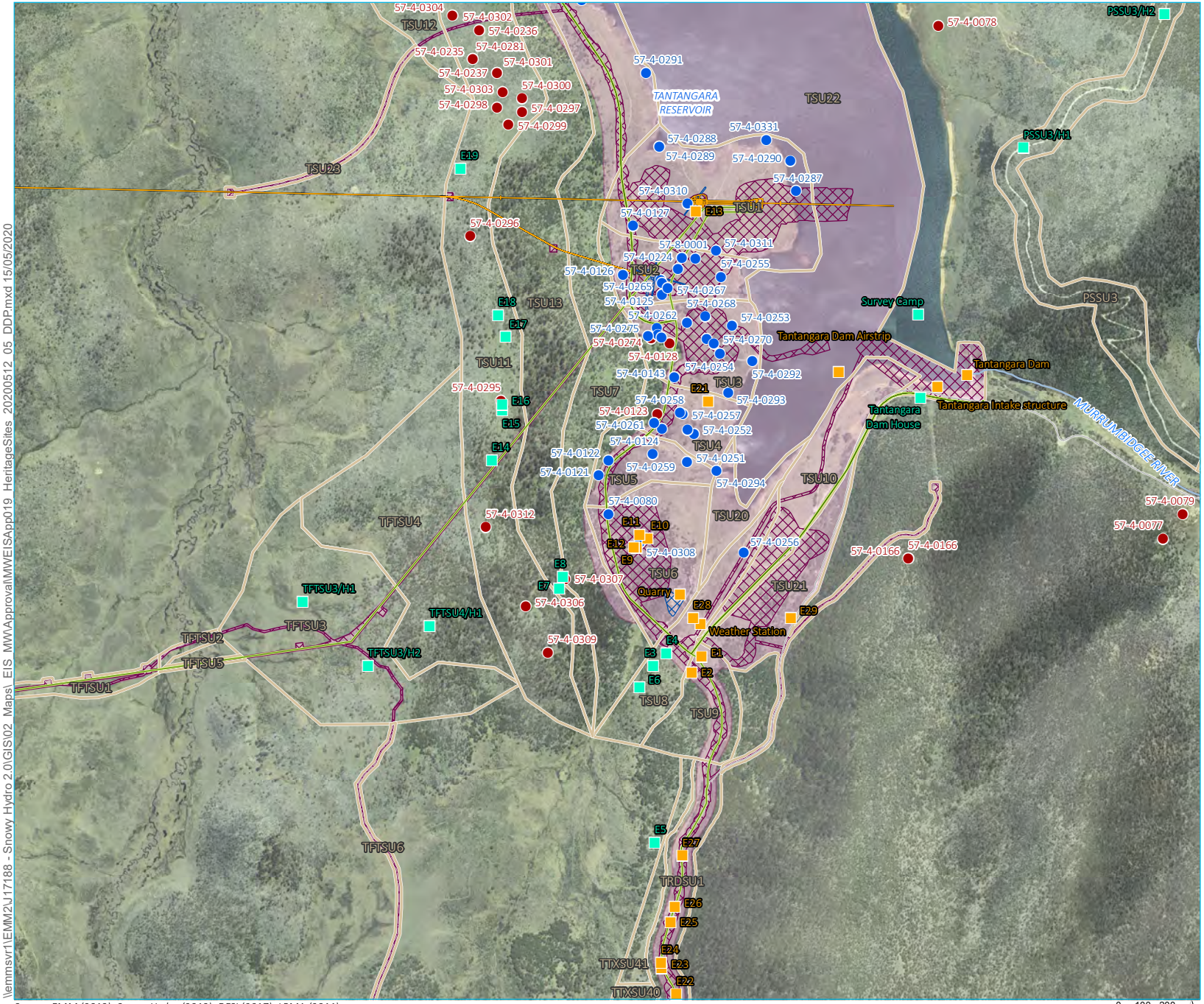
N

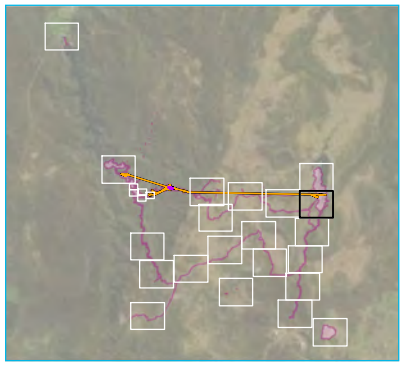
Snowy 2.0
Main Works
Figure 3.1.11

snowy 2.0

EMM creating opportunities

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp019 HeritageSites 20200512 05 DDP.mxd 15/05/2020





KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

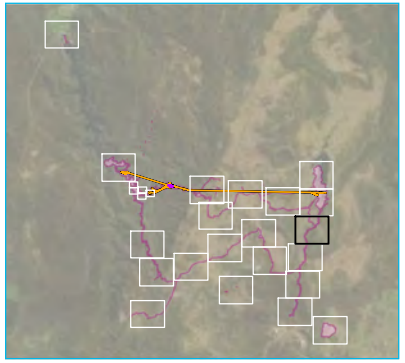
Aboriginal and historic heritage sites

Snowy 2.0
Main Works
Figure 3.1.12

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp019 HeritageSites 20200512 05 DDP.mxd 15/05/2020

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

0 100 200 m
GDA 1994 MGA Zone 55
N



KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Aboriginal and historic heritage sites

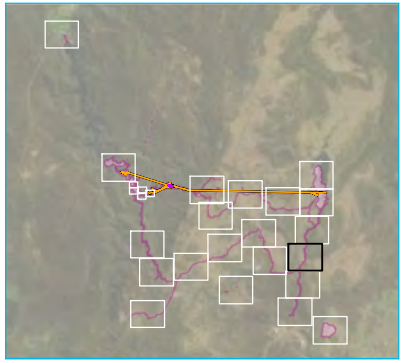
Snowy 2.0
Main Works
Figure 3.1.13

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

0 100 200 m
GDA 1994 MGA Zone 55

N

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02_Maps_EIS_MW\ApprovalMWEISApp019_HeritageSites_20200512_05_DDP.mxd 15/05/2020



KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Aboriginal and historic heritage sites

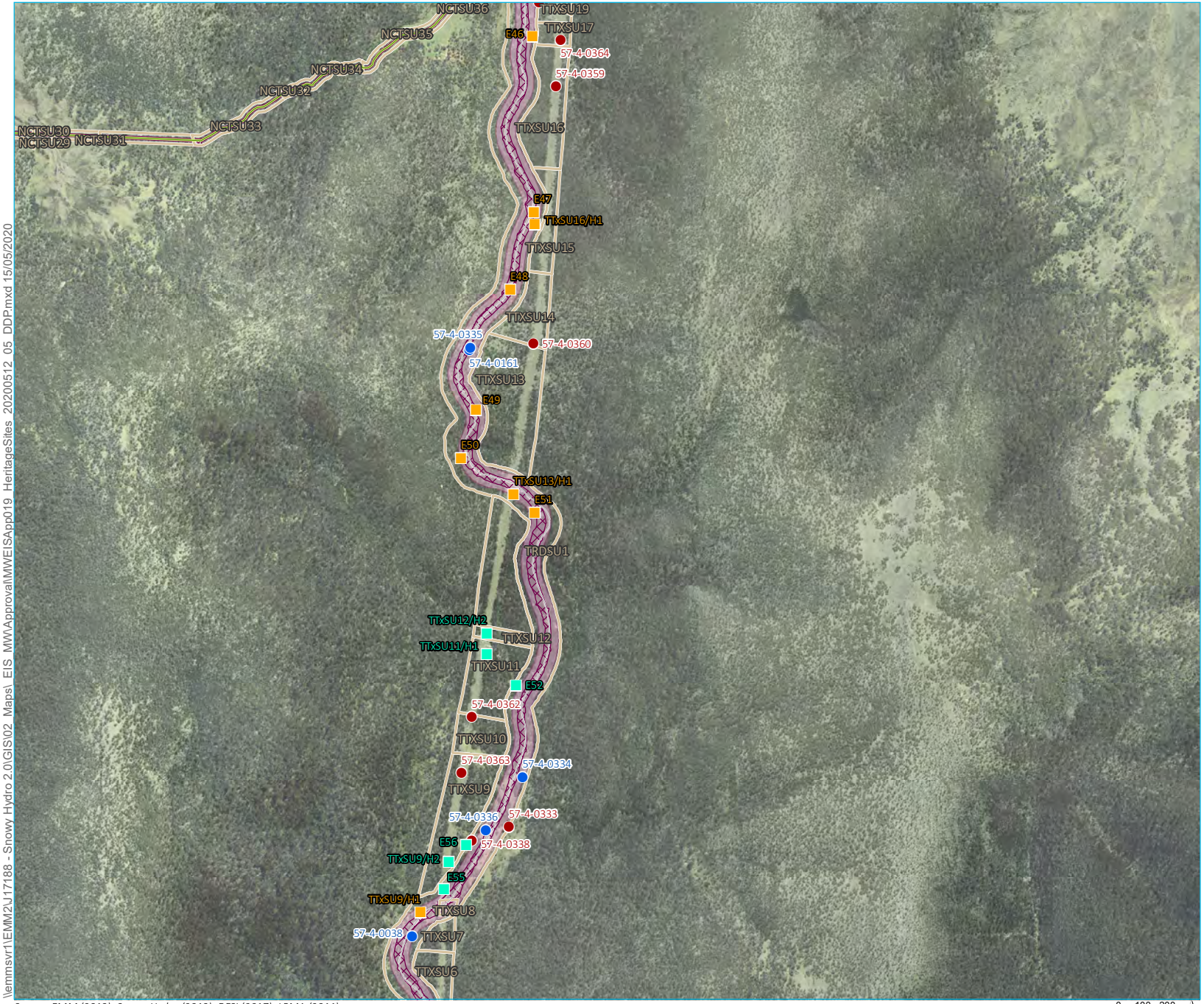
\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp019 HeritageSites 20200512 05 DDP.mxd 15/05/2020

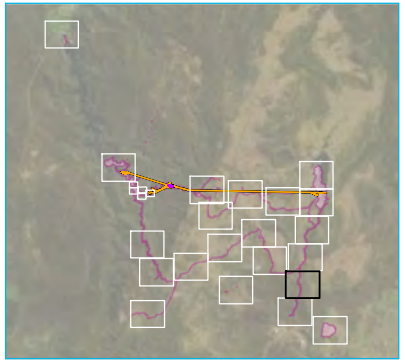
Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

0 100 200 m
GDA 1994 MGA Zone 55

N

Snowy 2.0
Main Works
Figure 3.1.14





KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Aboriginal and historic heritage sites

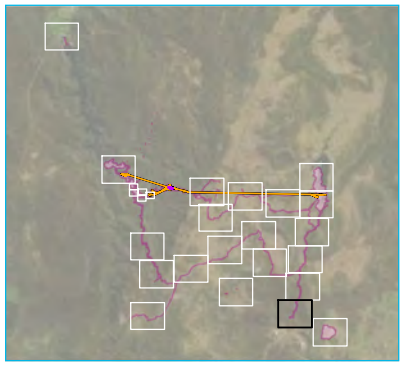
Snowy 2.0
Main Works
Figure 3.1.15

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

0 100 200 m
GDA 1994 MGA Zone 55

N

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp019 HeritageSites 20200512 05 DDP.mxd 15/05/2020



KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Aboriginal and historic heritage sites

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

0 100 200 m

GDA 1994 MGA Zone 55

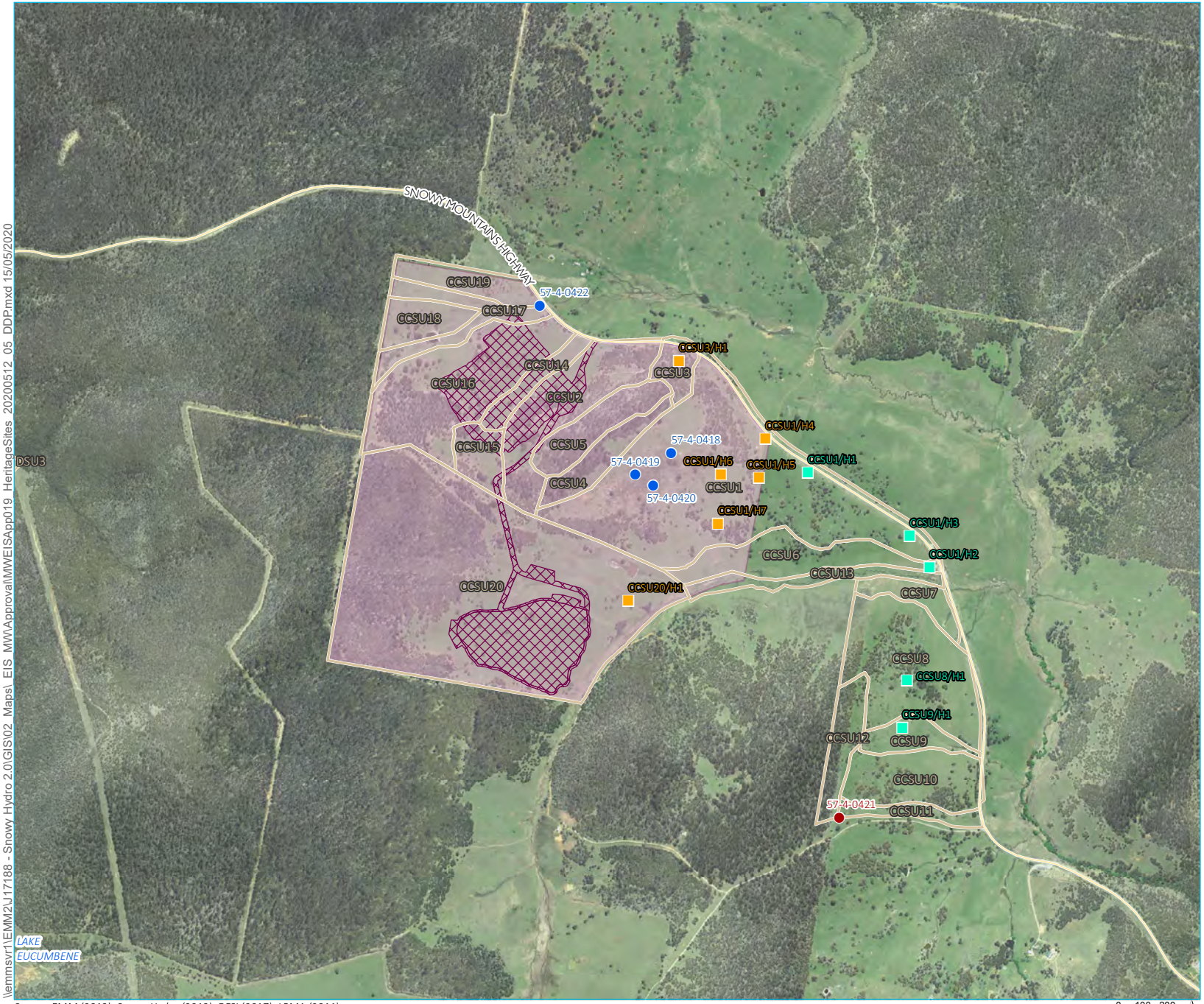
N

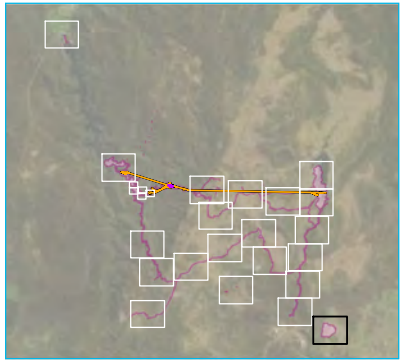
Snowy 2.0
Main Works
Figure 3.1.16

snowy 2.0

EMM creating opportunities

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp019 HeritageSites 20200512 05 DDP.mxd 15/05/2020





KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Aboriginal and historic heritage sites

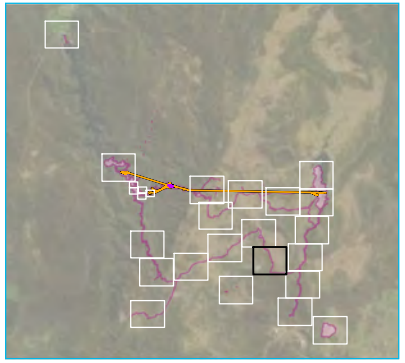
Snowy 2.0
Main Works
Figure 3.1.17

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

0 100 200 m
GDA 1994 MGA Zone 55

N

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp019 HeritageSites 20200512 05 DDP.mxd 15/05/2020



KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Aboriginal and historic heritage sites

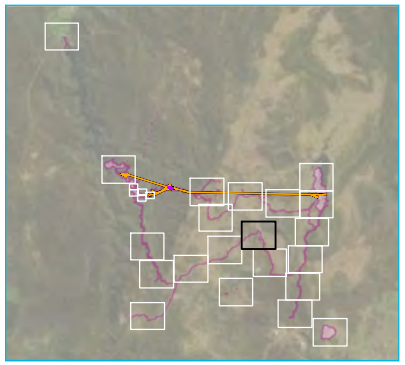
Snowy 2.0
Main Works
Figure 3.1.18

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

0 100 200 m
GDA 1994 MGA Zone 55

N

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp019 HeritageSites 20200512 05 DDP.mxd 15/05/2020



KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Aboriginal and historic heritage sites

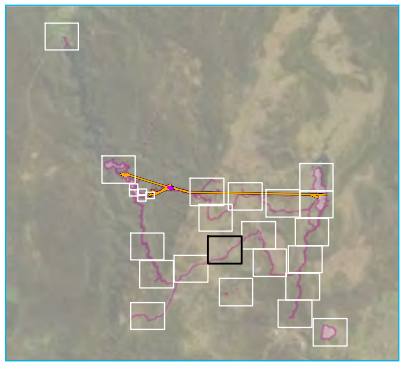
Snowy 2.0
Main Works
Figure 3.1.19

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

0 100 200 m
GDA 1994 MGA Zone 55

N

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp019 HeritageSites 20200512 05 DDP.mxd 15/05/2020



KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Aboriginal and historic heritage sites

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp019 HeritageSites 20200512 05 DDP.mxd 15/05/2020

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

0 100 200 m

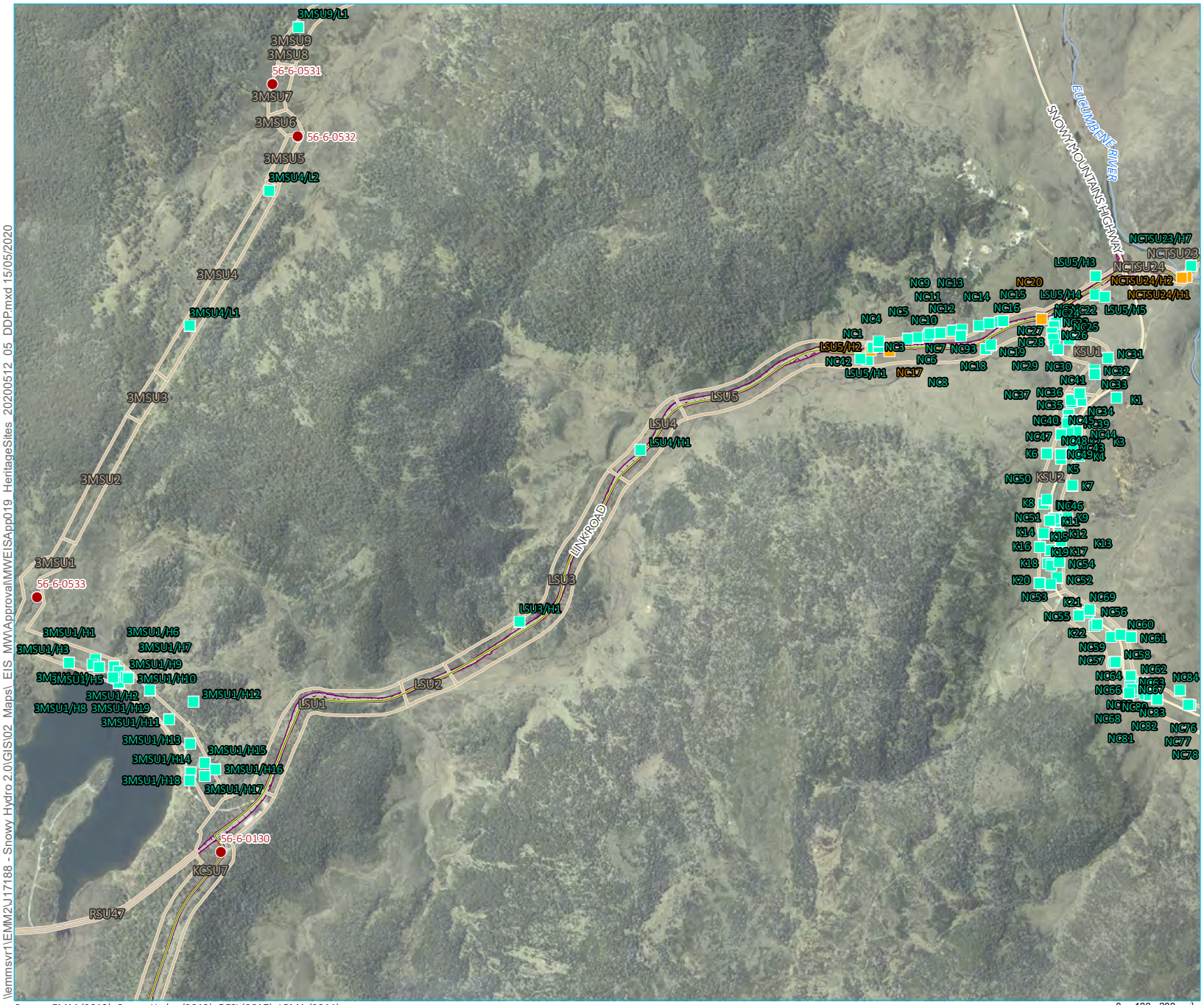
GDA 1994 MGA Zone 55

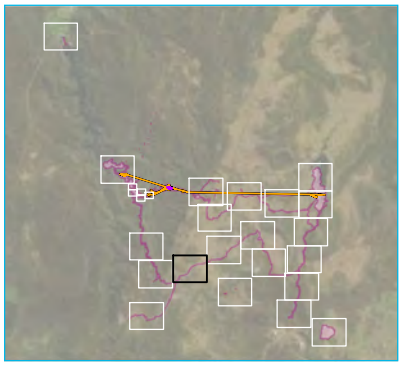
N

Snowy 2.0
Main Works
Figure 3.1.20

snowy 2.0

EMM
creating opportunities





KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Aboriginal and historic heritage sites

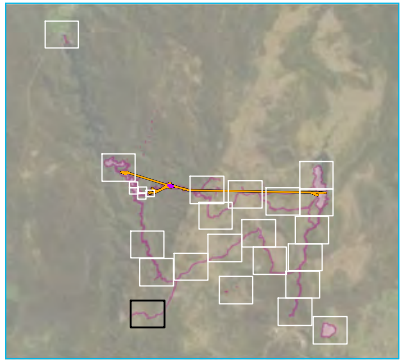
Snowy 2.0
Main Works
Figure 3.1.21

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

0 100 200 m
GDA 1994 MGA Zone 55

N

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp019 HeritageSites 20200512 05 DDP.mxd 15/05/2020



KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Aboriginal and historic heritage sites

Snowy 2.0
Main Works
Figure 3.1.22

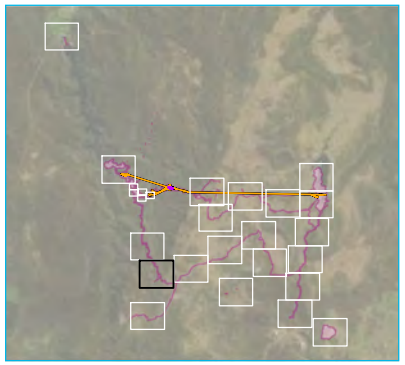
Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

0 100 200 m

GDA 1994 MGA Zone 55

N

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp019 HeritageSites 20200512 05 DDP.mxd 15/05/2020



KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

Aboriginal and historic heritage sites

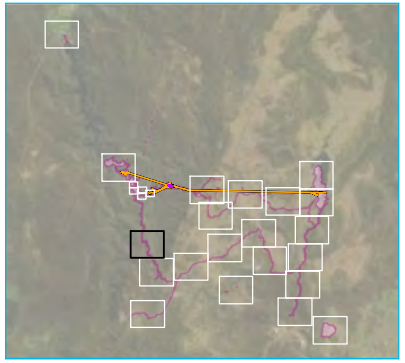
Snowy 2.0
Main Works
Figure 3.1.23

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

0 100 200 m
GDA 1994 MGA Zone 55

N

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp019 HeritageSites 20200512 05 DDP.mxd 15/05/2020



KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

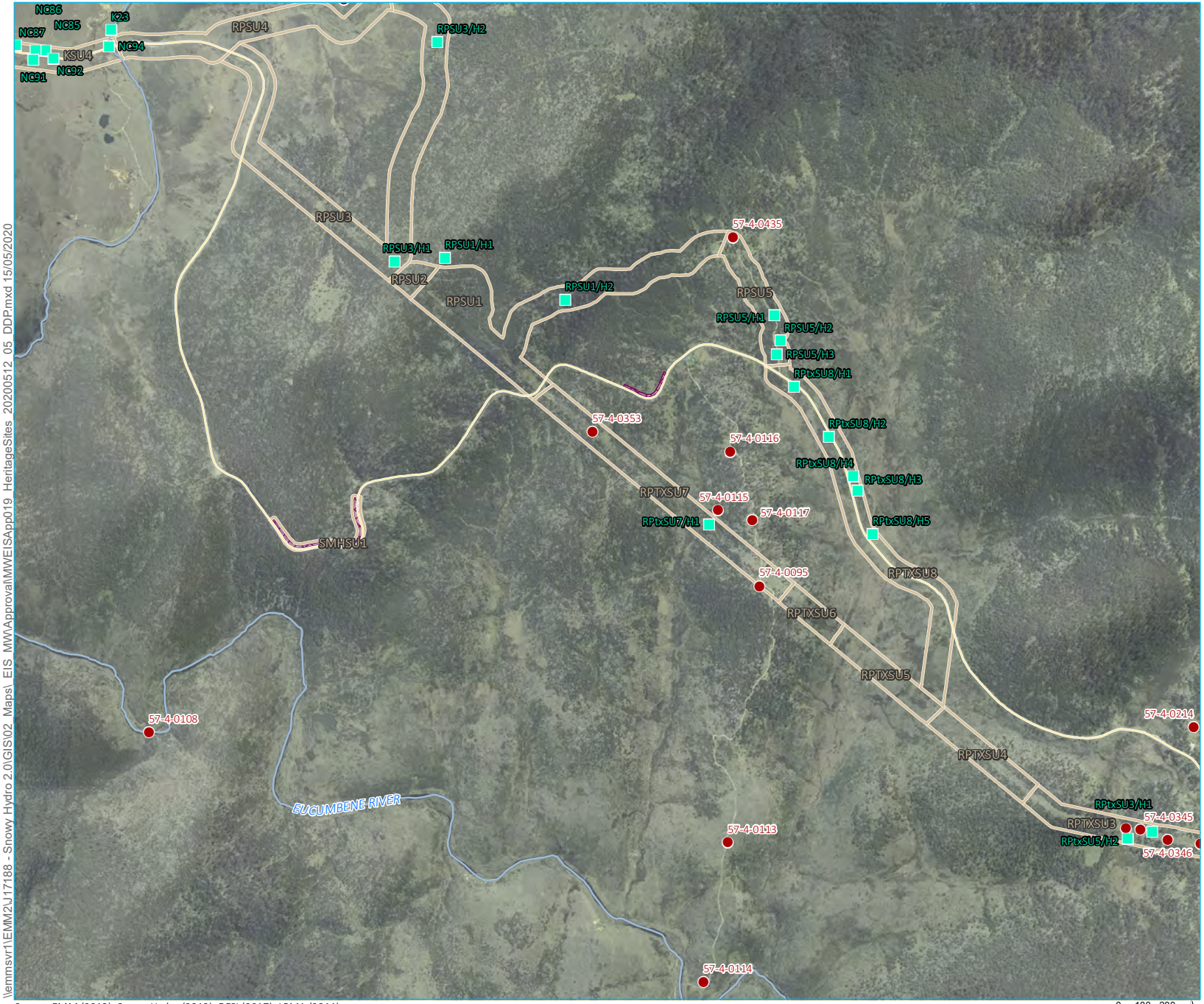
Aboriginal and historic heritage sites

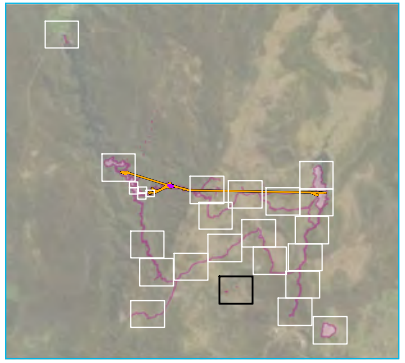
Snowy 2.0
Main Works
Figure 3.1.24

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

0 100 200 m
GDA 1994 MGA Zone 55
N

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp019 HeritageSites 20200512 05 DDP.mxd 15/05/2020





KEY

- Historic site within construction envelope
- Historic site outside construction envelope
- AHIMS within construction envelope
- AHIMS outside construction envelope
- Heritage survey unit

Snowy 2.0 operational elements

- Tunnels, portals, intakes, shafts
- Power station
- Utilities

Existing environment

- Main road
- Local road
- Watercourse
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

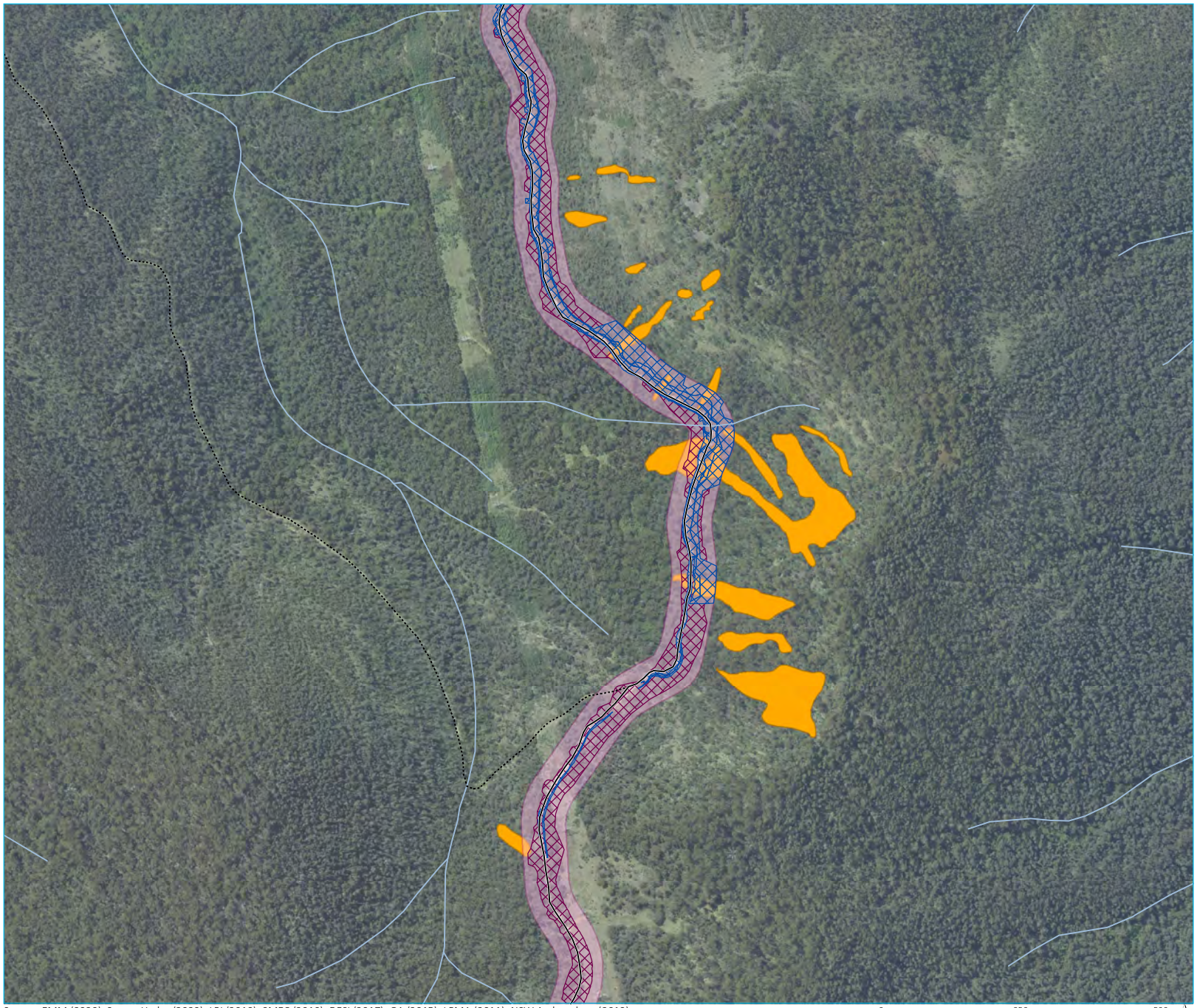
The disturbance area is an estimation of the area required for construction works based on the current level of project design. Detailed design is still required to be completed, therefore it is expected that the precise location of the disturbance area may move within the broader construction envelope and consequently there will be some further refinements to the disturbance area. The cumulative disturbance area for the Main Works and approved Exploratory Works is therefore presented in this figure.

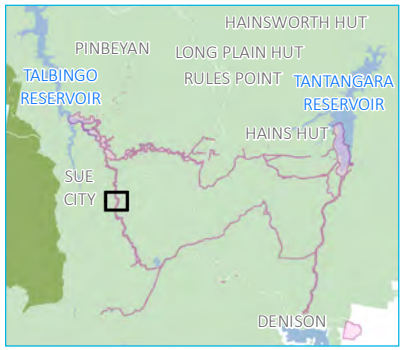
Aboriginal and historic heritage sites

Snowy 2.0
Main Works
Figure 3.1.25

Source: EMM (2019); Snowy Hydro (2019); DFSI (2017); LPMA (2011)

\\emmsvr1\EMM2\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS MW\ApprovalMWEISApp019 HeritageSites 20200512 05 DDP.mxd 15/05/2020





KEY

- Watercourse
- Local road
- Vehicular track
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope
- Boulder stream

Geodiversity features
- boulder streams

Snowy 2.0
Main Works
Figure 3.4

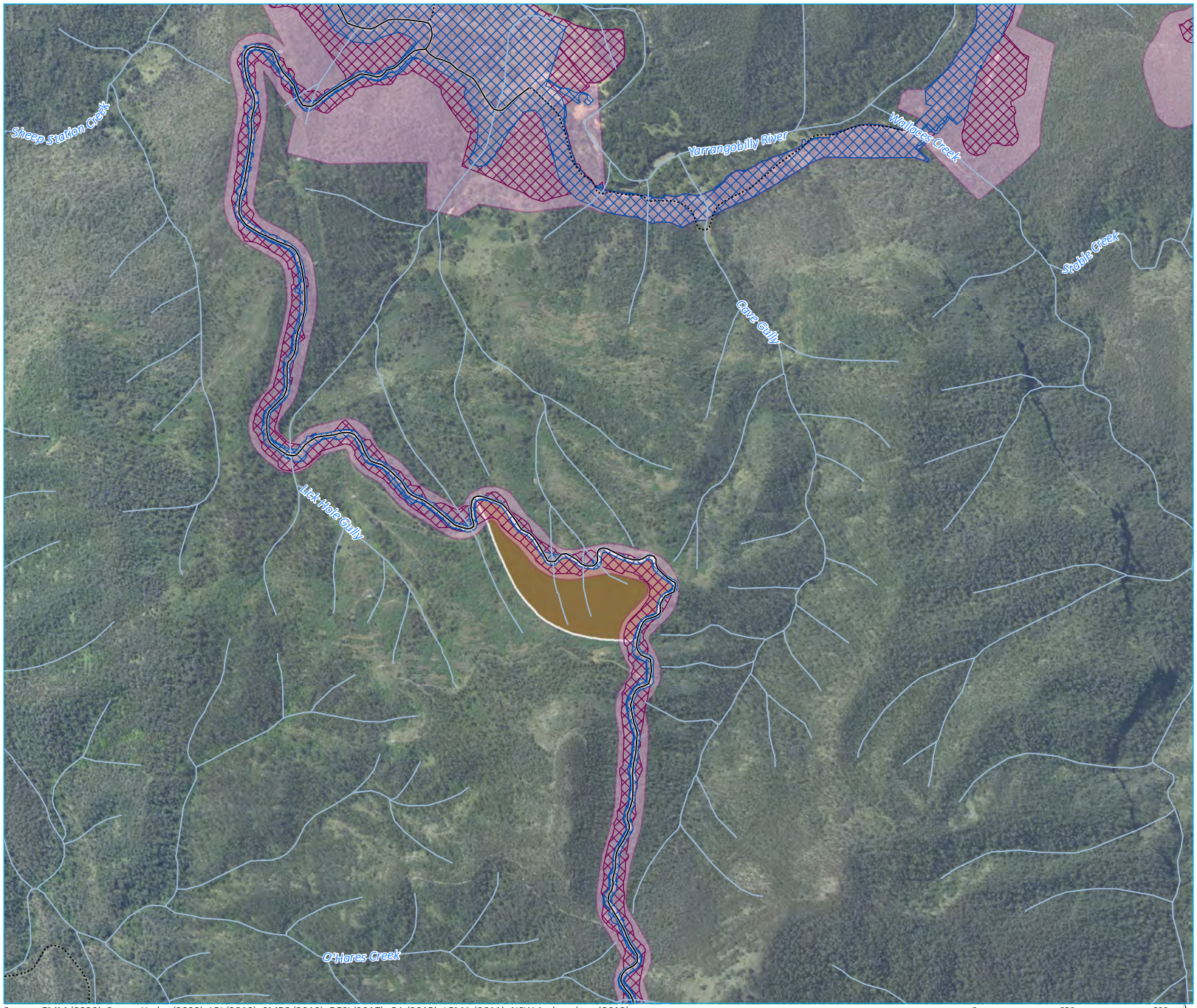
Source: EMM (2020); Snowy Hydro (2020); LPI (2019); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011); NSW Archaeology (2019)

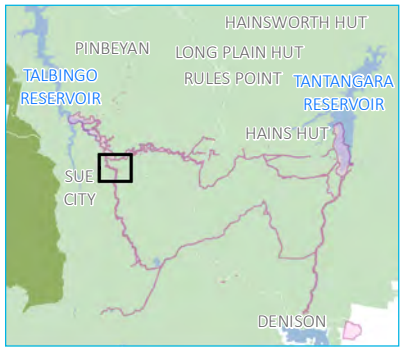
0 250 500 m

GDA 1994 MGA Zone 55

N

O:\17188 - Snowy Hydro 2.0\GIS\02_Maps_EIS_MW\Approval\MWEISApp022_BoulderStreamLocations_20200310_02_DDP.mxd 15/05/2020





KEY

- Watercourse
- Local road
- Vehicular track
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope
- Lobs Hole Ravine Road Fossil area

Source: EMM (2020); Snowy Hydro (2020); LPI (2019); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011); NSW Archaeology (2019)

0 250 500 m

GDA 1994 MGA Zone 55

N

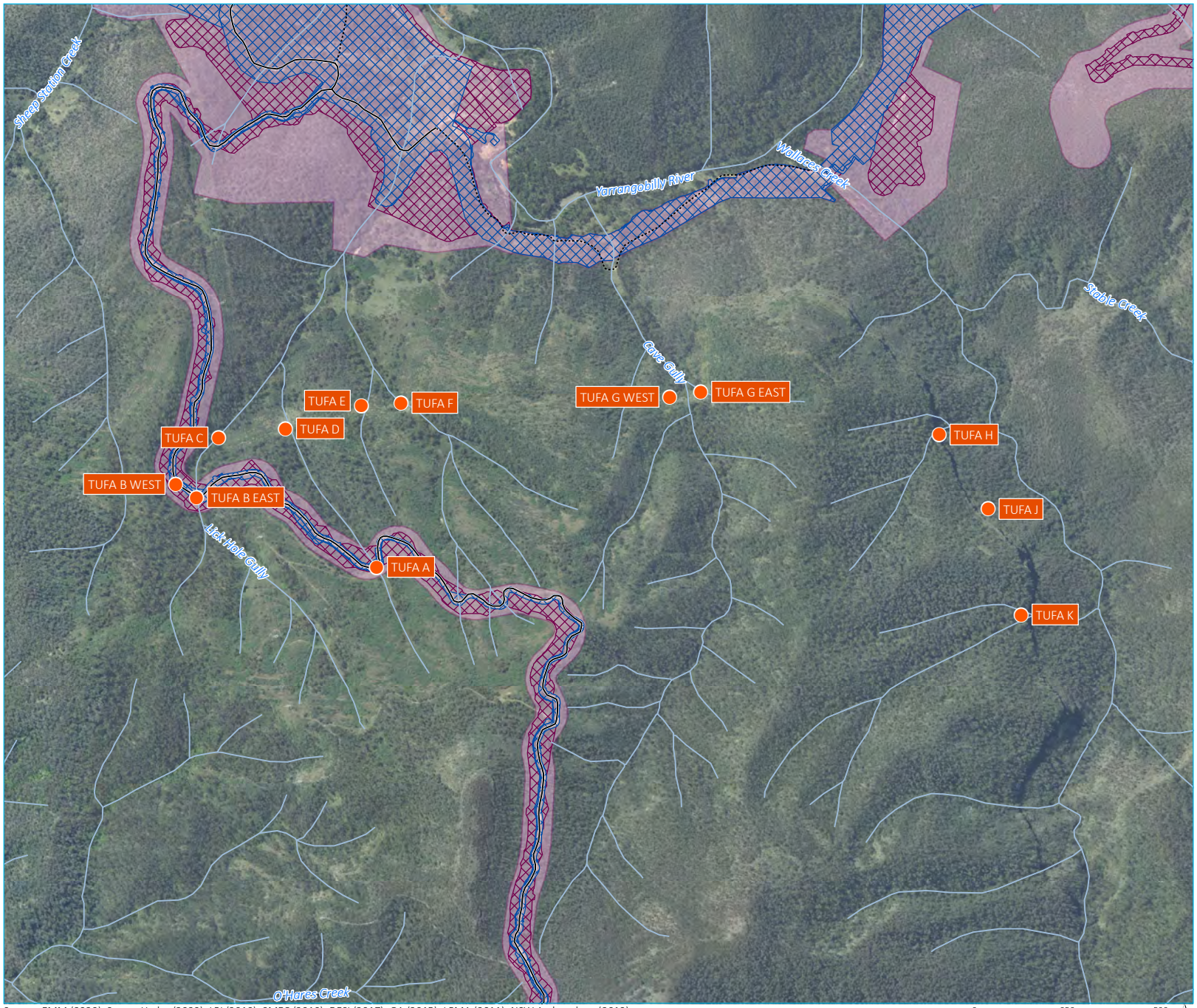
Geodiversity features - Lobs Hole Ravine Road fossils

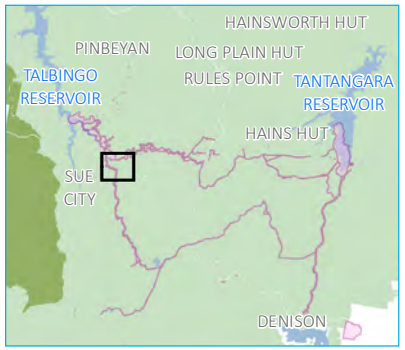
Snowy 2.0
Main Works
Figure 3.3

snowy 2.0

EMM

O:\17188 - Snowy Hydro 2.0\GIS\02_Maps_EIS_MW\Approval\MWEISApp021_FossilLocations_20200310_02_DDP.mxd 15/05/2020





KEY

- Tufa deposit location
- Watercourse
- Local road
- Vehicular track
- Exploratory Works disturbance area
- Main Works indicative disturbance area
- Construction envelope

Source: EMM (2020); Snowy Hydro (2020); LPI (2019); SMEC (2019); DFSI (2017); GA (2015); LPMA (2011); NSW Archaeology (2019)

0 250 500 m

GDA 1994 MGA Zone 55

N

Geodiversity features - tufa

Snowy 2.0
Main Works
Figure 3.2

snowy 2.0

EMM

O:\17188 - Snowy Hydro 2.0\GIS\02_Maps_EIS_MW\Approval\MWEISApp020_TufaLocations_20200310_02_DDP.mxd 15/05/2020

APPENDIX 4 – HERITAGE TABLES

Table 4-1: Historic Heritage – Impact and Management

Snowy 2.0 Main Works Historic Heritage: impact and management for sites inside or within 20 m of the RtS construction envelope **Legend:** **NA = not applicable** **EW = Exploratory Works**				
Locale	**Item**	**Contributory Significance**	**Mitigation, if in disturbance footprint**	**Management measure**
Rock Forest	CCSU1/H4	Little - Moderate	Yes	Archival recording
	CCSU1/H5	Little - Moderate	Yes	Archival recording and salvage moveable heritage, if warranted and impacts are expected
	CCSU3/H1	Little	Yes	Archival recording
	CCSU1/H6	Negligible	No	NA
	CCSU1/H7	Negligible	No	NA
	CCSU20/H1	Negligible	No	NA
Nungar Ck Trail	NCTSU2/H2	Little to Moderate	Yes	Archival recording
	NCTSU9/H1	Little	Yes	Archival recording
	NCTSU16/H2	Little - Moderate	Yes	Archival recording
	NCTSU23/H1	Moderate	Yes	Archival recording, archival research, Test/salvage excavation, if warranted and impacts are expected and interpretation plan
	NCTSU23/H2	Moderate	Yes	Archival recording, archival research, Test/salvage excavation, if warranted and impacts are expected and interpretation plan
	NCTSU23/H3	Little to Moderate	Yes	Archival recording, archival research
	NCTSU23/H5	Moderate	Yes	Archival recording, archival research, Test/salvage excavation, if warranted and impacts are expected and interpretation plan
	NCTSU23/H6	Moderate	Yes	Archival recording, archival research, Test/salvage excavation, if warranted and

				impacts are expected and interpretation plan
	NCTSU23/H7	Little - Moderate	Yes	Archival recording
	NCTSU24/H1	Moderate	Yes	Archival recording, archival research, Test/salvage excavation, if warranted and impacts are expected and interpretation plan
	NCTSU16/H1	Little to Moderate -	No	NA
	NCTSU22/H1	Little to Moderate	No	NA
	NCTSU23/H4	Little to Moderate	No	NA
	NCTSU4/H1	Negligible	No	NA
	NCTSU24/H2	Negligible	No	NA
	NCTSU37/H1	Moderate	Yes	Archival recording, archival research
Tantangara Rd	E29	Little	No	NA
	E30	Little	No	NA
	E36	Little	No	NA
	E39	Little	No	NA
	E47	Little	No	NA
	E48	Little	No	NA
	E53	Little to Moderate	No	NA
	E31	High	No	NA
	E37	Moderate	No	NA
	E38	Moderate	No	NA
	E40	Moderate	No	NA
	E41	Moderate	No	NA
	E42	Moderate to High	No	NA
	E43	Moderate to High	No	NA
	E44	Moderate	No	NA
	E45	High	No	NA
	E46	Moderate	No	NA
	E55	Moderate	No	NA
	E50	Little to Moderate	No	NA
	E22	Moderate	No	NA
	E23	Moderate	No	NA
	E24	Moderate	No	NA
	E25	Moderate	No	NA
	E26	Moderate	No	NA
	E27	Moderate	No	NA

	E28	Moderate	No	NA
	E32	Moderate	No	NA
	E33	Moderate	No	NA
	E34	Moderate	No	NA
	E35	Moderate	No	NA
	E49	Moderate	No	NA
	E51	Negligible	No	NA
Tantanagara Dam	E2	Negligible	Yes	Archival recording
	E9	Negligible	Yes	Archival recording
	TSU14/H1	Moderate to High	Yes	Archival recording, archival research, Test/salvage excavation, if warranted and impacts are expected and interpretation plan
	TSU14/H3	Negligible	Yes	Archival recording
	TSU15/H1	Moderate	Yes	Archival recording, archival research, Test/salvage excavation, if warranted and impacts are expected and interpretation plan
	TSU15/H2	Little to Moderate	Yes	Archival recording
	E4	Little to Moderate	Yes	Archival recording, Test/salvage excavation, if warranted and impacts are expected
	E11	Little	Yes	Archival recording
	E13	Moderate	Yes	Archival recording
	Tantangara Dam Airstrip	Negligible	Yes	Archival recording
	Tantangara Intake Structure	Moderate	Yes	Archival recording
	Tantangara Dam House	Little to Moderate	Yes	Archival recording
	Tantangara Dam	High	Yes	Archival recording
	Weather Station	Moderate	Yes	Archival recording, Test/salvage excavation, if warranted and impacts are expected
	Quarry	Moderate to High	Yes	Archival recording
	E10	Little	Yes	Archival recording, Archival research, Interpretation plan
	E12	Little	Yes	Archival recording, Archival research, Interpretation plan
	E21	Little	Yes	Archival recording, Archival research, Interpretation plan
	TSU14/H2	Little to Moderate	Yes	Archival recording
	E1	Little	Yes	Archival recording

	E14	Little	No	NA
Nungar Creek Fire Trail	NSU3/H2	Little	Yes	Archival recording, Archival research
	NSU4/H1	Little	Yes	Archival recording, Archival research
Marica	MSU1/H6	Little	No	NA
	MSU4/H1	Little	Yes	Archival recording
	MSU1/H5	Little to Moderate	Yes	Archival recording, Archival research
Gooandra Hill	GHSU12/H1	Negligible	No	NA
	GHSU13/H1	Negligible	No	NA
Kings Cross Rd	KCSU7/H2	Little	No	NA
	KCSU7/H4	Little	Yes	Archival recording
	KCSU7/H5	Moderate	Yes	Archival recording
	KCSU7/H6	Little to Moderate	Yes	Archival recording
	KCSU7/H3	Negligible	No	NA
Gooandra FT	GSU15/H3	Little	Yes	Archival recording
	GSU22/H2	Little	Yes	Archival recording
	GSU4/H2	Moderate	Yes	Archival recording
	GSU7/H7	Moderate	Yes	Archival recording
	GSU7/H8	Moderate	Yes	Archival recording, Test/salvage excavation, if warranted and impacts are expected
	GSU20/H1	Moderate to High	Yes	Archival recording
	GSU22/H1	Moderate	Yes	Archival recording
	GSU6M	High to Exceptional	Yes	Archival recording, Test/salvage excavation, if warranted and impacts are expected
	GSU1/H3	Little to Moderate	Yes	Archival recording
	GSU9/H1	Little to Moderate	Yes	Archival recording
	GSU15/H1	Little to Moderate	Yes	Archival recording, Archival research
	GSU15/H2	Little to Moderate	Yes	Archival recording
	GSU15/H5	Little to Moderate	Yes	Archival recording, Archival research
	GSU16/H1	Little to Moderate	Yes	Archival recording
	GSU21/H2	Moderate	Yes	Archival recording, Archival research
	GSU3/H1	Negligible	No	NA
	GSU4/H1	Negligible	No	NA
Link Road	LSU4/H1	Moderate	Yes	Archival recording
	LSU5/H2	Little	Yes	Archival recording

	NC1	Little to Moderate	Yes	Archival recording
	NC3	Little to Moderate	Yes	Archival recording
	NC20	Little to Moderate	Yes	Archival recording
	NC17	Little	No	NA
Lobs Hole Ravine	R21	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted and impacts are expected
	R22	Negligible	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R23	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R24	Negligible	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R25	High	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R26	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R27	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R28	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted and impacts are expected
	R29	Little	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R30	Negligible	Yes, but addressed in EW	Archival recording Test excavation Salvage if warranted
	R39	Negligible	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R59	Negligible	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted and impacts are expected

	R60	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted and impacts are expected
	R61	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R121	Negligible	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R122	Little	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R31	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted and impacts are expected
	R41	Little to Moderate	Yes, but addressed in EW	Archival recording Test excavation Salvage if warranted
	R42	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R47	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R63	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R64	Moderate	Yes	Archival research, Archival recording, Interpretation Plan
	R66	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R71	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted. Implement measures to protect moveable heritage
	R113	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted and impacts are expected
	R48	High	Yes	Archival research, Archival recording, Salvage moveable heritage, if warranted and impacts are expected, Test/salvage excavation, if warranted and impacts are expected, Interpretation Plan

	R50	High	Yes	Archival research, Archival recording, Salvage moveable heritage, if warranted and impacts are expected, Test/salvage excavation, if warranted and impacts are expected, Interpretation Plan
	R57	Moderate to High	Yes	Archival research, Archival recording, Interpretation Plan
	R76	Little to Moderate	Yes	Archival research, Archival recording, Salvage moveable heritage, if warranted and impacts are expected, Test/salvage excavation, if warranted and impacts are expected, Interpretation Plan
	R106	Moderate	Yes	Archival research, Archival recording, Interpretation Plan
	R107	High	Yes	Archival research, Archival recording, Salvage moveable heritage, if warranted and impacts are expected, Test/salvage excavation, if warranted and impacts are expected, Interpretation Plan
	R108	Moderate	Yes	Archival research, Archival recording, Interpretation Plan
	R109	High	Yes	Archival research, Archival recording, Salvage moveable heritage, if warranted and impacts are expected, Test/salvage excavation, if warranted and impacts are expected, Interpretation Plan
	R110	High	Yes	Archival research, Archival recording, Salvage moveable heritage, if warranted and impacts are expected, Test/salvage excavation, if warranted and impacts are expected, Interpretation Plan
	R111	Moderate to High	Yes	Archival research, Archival recording, Interpretation Plan
	R115	Moderate	Yes	Archival research, Archival recording, Salvage moveable heritage, if warranted and impacts are expected, Test/salvage excavation, if warranted and impacts are expected, Interpretation Plan
	R1	Moderate - High	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted

	R3	Little	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted and impacts are expected
	R4	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted and impacts are expected
	R15	Little	No	NA
	R18	Little	No	NA
	R35	Little	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted and impacts are expected
	R73	Little	No	NA
	R92	Little-Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R93	Little	No	NA
	R97	Little	No	NA
	R100	Negligible	No	NA
	R103	Little-Moderate	No	NA
	R129	Little	No	NA
	R2	Little - Moderate	Yes, but addressed in EW	Archival recording Test excavation. salvage if warranted Implement measures to protect moveable heritage
	R5	Little - Moderate	No	NA
	R9	Little - Moderate	Yes	Archival research, Archival recording, Salvage moveable heritage, if warranted and impacts are expected, Test/salvage excavation, if warranted and impacts are expected, Interpretation Plan
	R10	Moderate	Yes	Archival research, Archival recording, Salvage moveable heritage, if warranted and impacts are expected, Test/salvage excavation, if warranted and impacts are expected, Interpretation Plan
	R11	Moderate	Yes	Archival research, Archival recording, Salvage moveable heritage, if warranted and impacts are expected, Test/salvage excavation, if

				warranted and impacts are expected, Interpretation Plan
	R12	Moderate	Yes	Archival research, Archival recording, Salvage moveable heritage, if warranted and impacts are expected, Test/salvage excavation, if warranted and impacts are expected, Interpretation Plan
	R13	Little - Moderate	Yes	Archival research, Archival recording, Salvage moveable heritage, if warranted and impacts are expected, Test/salvage excavation, if warranted and impacts are expected, Interpretation Plan
	R14	Moderate	No	NA
	R45	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R46	Negligible	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R69	Moderate	No	NA
	R72	Moderate	No	NA
	R74	Little - Moderate	No	NA
	R75	Little - Moderate	No	NA
	R81	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R90	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R91	Little - Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R96	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R99	Little	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R114	Little- Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R117	Negligible	No	NA
	R53	Little - Moderate	Yes, but addressed in EW	Archival recording

	R84	Little - Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R85	Little - Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R86	Little - Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R94	Little - Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R95	Little - Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R132	Little - Moderate	No	NA
	R44	Little- Moderate	No	NA
	R52	Little	No	NA
	R54	Little to Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted and impacts are expected
	R77	Negligible	No	NA
	R83	Negligible	No	NA
	R102	Little	No	NA
	R119	Moderate	No	NA
	R6	Moderate	No	NA
	R17	Moderate	Yes, but addressed in EW	Archival recording
	R19	Moderate	No	NA
	R34	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R40	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R101	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R116	Moderate	No	NA
	R128	Moderate	No	NA
	R133	Moderate	No	NA
	R7	Little	No	NA
	R8	Little	No	NA
	R16	Negligible	No	NA
	R33	Moderate	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted

	R58	Negligible	No	NA
	R78	Little	No	NA
	R82	Negligible	Yes, but addressed in EW	Archival recording
	R88	Moderate	No	NA
	R98	Little	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R130	Negligible	No	NA
	R131	Negligible	No	NA
	R55	Negligible	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted
	R70	Negligible	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted and impacts are expected
	R89	Negligible	Yes, but addressed in EW	Archival recording Test excavation, salvage if warranted

Table 4-2: Historic Heritage – Avoid

Snowy 2.0 Main Works Historic Heritage: avoid - no impacts permitted for sites within and adjacent to the RtS construction envelope			
Locale	**Item**	**Contributory Significance**	**Management**
Lobs Hole	R20 Washington Hotel	Exceptional	No impacts permitted. Archival recording, research and interpretation plan managed under Exploratory Works and complete. No-go fencing recommended. No further interpretation required.
	R118 Ravine Cemetery	High to Exceptional	No ground disturbance will occur within the cadastral boundary of Ravine Cemetery. Some non-ground invasive vegetation clearance will be required at the western and northern boundaries of the cadastral boundary of Ravine Cemetery. No-go fencing, archival research and interpretation plan recommended.

Table 4-3: Aboriginal Heritage – Impact and Management

Snowy 2.0 Main Works Aboriginal Heritage: impact and management for survey units that intersect with the RtS construction envelope				
Locale	**ID**	**Aboriginal Objects**	**Significance**	**Management and mitigation, if in disturbance footprint (direct impact)**
Talbingo	TMSU26	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	TMSU27	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
Lobs Hole	RSU1	Nil recorded	Low local significance	Unmitigated impact
	RSU2	Nil recorded	Potentially moderate local significance	Salvage excavation
	RSU3	AHIMS #56-6-0009	Low/moderate local significance	Unmitigated impact
		RSU3/L1		
		RSU3/L2		
		RSU3/L3		
		Test Transect 1		
		Test Transect 2		
		Test Transect 3		
		Test Transect 4		
	RSU4	AHIMS #56-6-0045	Low local significance	Unmitigated impact
		RSU4/L1		
		RSU4/L2		
	RSU5	RSU5/L1	Moderate local significance	Salvage excavation
		RSU5/L2		
		Test Transect 1		
		Test Transect 2		
		Test Transect 3		

		Test Transect 4		
		Test Transect 5		
	RSU6	RSU6/L1	Moderate local significance	Salvage excavation* This survey unit was partially salvaged during EW mitigation measures. If no additional impacts are proposed, salvage would not be required.
		RSU6/L2		
		RSU6/L3		
		RSU6/L4		
		Test Transect 1		
		Test Transect 2		
	RSU7	Nil recorded	Potentially moderate local significance	Salvage excavation* This survey unit was partially salvaged during EW mitigation measures. If no additional impacts are proposed, salvage would not be required.
	RSU8	AHIMS #56-6-0043	Low local significance	Unmitigated impact
		Test Transect 1		
		Test Transect 2		
		Test Transect 3		
		Test Transect 4		
	RSU9	Nil recorded	Low local significance	Unmitigated impact
	RSU10	RSU10/L1	Moderate local significance	Salvage excavation* This survey unit was partially salvaged during EW mitigation measures. If no additional impacts are proposed, salvage would not be required.
		RSU10/L2		
		RSU10/L3		
		Test Transect 1		
		Test Transect 2		

	RSU11	AHIMS #56-6-0041	Low local significance	Unmitigated impact
		AHIMS #56-6-0047		
		RSU11/L1		
		RSU11/L2		
		RSU11/L3		
		Test Transect 1		
		Test Transect 2		
		Test Transect 3		
	RSU12	AHIMS #56-6-0042	Moderate local significance	Salvage excavation
		AHIMS #56-6-0046		
		Test Transect 1		
		Test Transect 2		
		Test Transect 3		
		Test Transect 4		
		Test Transect 5		
		Test Transect 6		
		Test Transect 7		
		Test Transect 8		
	RSU13	RSU13/L1	Low local significance	Unmitigated impact
		RSU13/L2		
	RSU14	Nil recorded	Low local significance	Unmitigated impact
	RSU15	Nil recorded	Low local significance	Unmitigated impact
	RSU16	RSU16/L1	Low local significance	Unmitigated impact

		RSU16/L2		
		RSU16/L3		
		RSU16/L4		
	RSU17	RSU17/L1	Low local significance	Unmitigated impact
	RSU18	RSU18/L1	Low local significance	Unmitigated impact
	RSU19	Nil recorded	Low local significance	Unmitigated impact
	RSU21	Nil recorded	Low local significance	Unmitigated impact
	RSU22	RSU22/L1	Low local significance	Unmitigated impact
		RSU22/L2		
		RSU22/L3		
	RSU23	RSU23/L1	Low local significance	Unmitigated impact
		RSU23/L2		
		RSU23/L3		
	RSU24	RSU24/L1	Low local significance	Unmitigated impact
	RSU25	AHIMS #56-6-0039	Low local significance	Unmitigated impact
	RSU26	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	RSU27	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	RSU28	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	RSU29	RSU29/L1	Survey Unit generally of negligible significance	Mitigated Impact: salvage hatchet head
	RSU30	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	RSU31	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	RSU32	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact

	RSU33	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	RSU34	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	RSU35	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	RSU36	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	RSU37	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	RSU38	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	RSU39	RSU39/L2 RSU39/L1	Survey Unit generally of negligible significance with the exception of certain micro topographies which may potentially be of low/moderate local significance	Unmitigated impact
	RSU40	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	RSU41	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	RSU42	Un-surveyed	Survey Unit generally of negligible potential	Unmitigated impact
	RSU43	Un-surveyed	Survey Unit generally of negligible potential	Unmitigated impact
	RSU44	Un-surveyed: Talbingo Dam	Survey Unit generally of negligible potential	Unmitigated impact
	RSU45	Un-surveyed	Survey Unit generally of negligible potential	Unmitigated impact
	RSU46	Un-surveyed	Survey Unit generally of negligible potential	Unmitigated impact
	RSU47	Un-surveyed	Survey Unit generally of negligible potential	Unmitigated impact
Marica	MSU1	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	MSU2	MSU2/L1 AHIMS #56-6-0501	Generally low significance in the Survey Unit with the exception of MSU2/L1 which may potentially be	Salvage excavation

			of moderate local significance	
	MSU3	MSU3/L1 AHIMS #56-6-535	Generally low significance in the Survey Unit with the exception of MSU3/L1 which may potentially be of low/moderate local significance	Unmitigated impact
	MSU4	MSU4/L1 AHIMS #56-6-0500 MSU4/L2 AHIMS #56-6-534	Generally low significance in the Survey Unit with the exception of MSU4/L1 and MSU4/L2 which may potentially be of low/moderate local significance	Salvage excavation
	MSU5	Nil recorded	Survey Unit generally of very low significance	Unmitigated impact
	MSU6	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	MSU7	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	MSU8	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	MSU9	Un-surveyed	Survey Unit generally of negligible potential	Unmitigated impact
	MSU10	Un-surveyed	Survey Unit generally of low potential	Unmitigated impact
Gooandra Hill	GHSU1	Gooandra SU1/L1 AHIMS #57-4-0313 Gooandra SU1/L2 AHIMS #57-4-0314 Gooandra SU1/L3 AHIMS #57-4-0315 Gooandra SU1/L4 AHIMS #57-4-0316	Generally low significance in the Survey Unit with the exception of certain micro topographies which may potentially be of low/moderate local significance	Unmitigated impact

		Gooandra SU1/L5		
		AHIMS #57-4-0317		
		Gooandra SU1/L6		
		AHIMS #57-4-0326		
		Gooandra SU1/L7		
		AHIMS #57-4-0325		
		Gooandra SU1/L8		
		AHIMS #57-4-0323		
		Gooandra SU1/L9		
		AHIMS #57-4-0324		
		Gooandra SU1/L10		
		AHIMS #57-4-0405		
		Gooandra SU1/L11		
		AHIMS #57-4-0408		
		Gooandra SU1/L12		
		AHIMS #57-4-0404		
		Test Transect 1		
		Test Transect 2		
		Test Transect 3		
		Test Transect 4		

		Test Transect 5		
		Test Transect 6		
		Test Transect 7		
		Test Transect 8		
		Test Transect 9		
		Test Transect 10		
		Test Transect 11		
		Test Transect 12		
		Test Transect 13		
	GHSU3	Gooandra SU3/L1	Generally low significance in the Survey Unit with the exception of certain micro topographies which may potentially be of low/moderate local significance	Unmitigated impact
		AHIMS #57-4-0322		
		Gooandra SU3/L2		
		AHIMS #57-4-0321		
		Gooandra SU3/L3		
		AHIMS #57-4-0320		
		Gooandra SU3/L4		
		AHIMS #57-4-0319		
		Gooandra SU3/L5		
		AHIMS #57-4-0318		
	GHSU4	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact

	GHSU5	Nil recorded	Survey Unit generally of very low significance	Unmitigated impact
	GHSU12	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	GHSU13	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	GHSU14	Un-surveyed	Survey Unit generally of negligible potential	Unmitigated impact
	GHSU15	Un-surveyed	Survey Unit generally of negligible potential	Unmitigated impact
Kings Cross	KCSU1	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	KCSU2	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	KCSU3	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	KCSU4	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	KCSU5	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	KCSU6	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	KCSU7	MS-ST-1 AHIMS #56-6-0130 (not in SU)	Survey Unit generally of negligible significance	Unmitigated impact
Link Road	LSU1	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	LSU2	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	LSU3	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	LSU4	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	LSU5	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
Gooandra FT	GSU1	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	GSU2	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact

	GSU3	Nil recorded	Survey Unit generally of negligible/low significance	Unmitigated impact
	GSU4	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	GSU5	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	GSU6	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	GSU7	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	GSU8	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	GSU9	Nil recorded	Survey Unit generally of very low significance	Unmitigated impact
	GSU10	Nil recorded	Survey Unit generally of very low significance	Unmitigated impact
	GSU12	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	GSU13	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	GSU14	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	GSU15	GSU15/L1 AHIMS #57-4-0409	Survey Unit generally of negligible significance	Unmitigated impact
	GSU16	Nil recorded	Survey Unit generally of negligible to very low significance	Unmitigated impact
	GSU17	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	GSU18	GSU18/L1 AHIMS #57-4-0383	Survey Unit generally of negligible significance	Unmitigated impact
	GSU20	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	GSU21	Nil recorded	Survey Unit generally of negligible to low significance	Unmitigated impact
	GSU22	Nil recorded	Survey Unit generally of low significance	Unmitigated impact

	GSU23	Un-surveyed	Survey Unit generally of negligible potential	Unmitigated impact
Nungar Ck FT	NSU1	NSU1/L1 AHIMS #57-4-0344	Survey Unit generally of negligible significance	Unmitigated impact
	NSU2	NSU2/L1 AHIMS #57-4-0390	Survey Unit generally of negligible significance	Unmitigated impact
	NSU3	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NSU4	NSU4/L1 AHIMS #57-4-0343	Survey Unit generally of negligible significance	Unmitigated impact
	NSU5	Un-surveyed	Survey Unit generally of low potential	Unmitigated impact
	NSU6	Un-surveyed	Survey Unit generally of low potential	Unmitigated impact
Tantangara Dam FT	TFTSU1	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	TFTSU2	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	TFTSU3	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	TFTSU4	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	TFTSU5	Un-surveyed	Survey Unit generally of low potential	Unmitigated impact
	TFTSU6	Un-surveyed	Survey Unit generally of low potential	Unmitigated impact
Tantangara Dam	TSU1	Quarry Rd 1 AHIMS #57-4-0127 TSU1/L2 AHIMS #57-4-0310 TSU1/L3 AHIMS #57-4-0311 TSU1/L4 AHIMS #57-4-0287	Survey Unit very low significance	Unmitigated impact

		TSU1/L5		
		AHIMS #57-4-0290		
		TSU1/L6		
		AHIMS #57-4-0289		
		TSU1/L7		
		AHIMS #57-4-0288		
		Test Transect 1		
		Test Transect 2		
		Test Transect 3		
		Test Transect 4		
		Test Transect 5		
		Test Transect 6		
		Test Transect 7		
		Test Transect 8		
		Test Transect 9		
		Test Transect 10		
		Test Transect 11		
		Test Transect 12		
		Test Transect 13		
		Test Transect 14		
		Test Transect 15		
	TSU2	Quarry Road 3		Salvage excavation

		AHIMS #57-4-0126	Survey Unit generally of low/moderate significance	
		Quarry Road 4		
		AHIMS #57-4-0224		
		Quarry Road 5		
		AHIMS #57-4-0125		
		TSU2/L2		
		AHIMS #57-4-0265		
		TSU2/L3		
		AHIMS #57-4-0266		
		TSU2/L5		
		AHIMS #57-4-0267		
		TSU2/L6		
		AHIMS #57-4-0263		
		TSU2/L8		
		AHIMS #57-4-0264		
		TSU2/L9		
		AHIMS #57-4-0255 Test Transect 1		
		Test Transect 2		
		Test Transect 3		
		Test Transect 4		
		Test Transect 5		
		Test Transect 6		
	TSU3	Quarry road -1		Salvage excavation

		AHIMS #57-4-0143	Survey Unit generally of low/moderate significance	
		Quarry Road 2		
		AHIMS #57-4-0128		
		TSU3/L1		
		AHIMS #57-4-0293		
		TSU3/L2		
		AHIMS #57-4-0292		
		TSU3/L3		
		AHIMS #57-4-253		
		TSU3/L4		
		AHIMS #57-4-0254		
		TSU3/L5		
		AHIMS #57-4-0270		
		TSU3/L6		
		AHIMS #57-4-0269		
		TSU3/L7		
		AHIMS #57-4-0268		
		TSU3/L8		
		AHIMS #57-4-0271		
		TSU3/L11		
		AHIMS #57-4-0273		
		TSU3/L12		
		AHIMS #57-4-0272		
		TSU3/L13		
		AHIMS #57-4-0274		

		TSU3/L14 AHIMS #57-4-0275 TSU3/L15 AHIMS #57-4-0262 Test Transect 1 Test Transect 2 Test Transect 3 Test Transect 4 Test Transect 5 Test Transect 6 Test Transect 7		
	TSU4	Quarry Road 2 AHIMS #57-4-0123 Quarry Road 6 AHIMS #57-4-0124 TSU4/L1 AHIMS #57-4-0252 TSU4/L2 AHIMS #57-4-0260 TSU4/L3 AHIMS #57-4-0257 TSU4/L4 AHIMS #57-4-0258 TSU4/L6	Survey Unit generally of moderate significance	Salvage excavation

		AHIMS #57-4-0261 Test Transect 1		
		Test Transect 2		
		Test Transect 3		
		Test Transect 4		
		Test Transect 5		
		Test Transect 6		
	TSU5	Quarry Road 7	Survey Unit generally of low significance	Unmitigated impact
		AHIMS #57-4-122		
		Quarry Road 8		
		AHIMS #57-4-121		
		TSU5/L3		
		AHIMS #57-4-0259		
		TSU5/L4		
		AHIMS #57-4-0294		
		TSU5/L5		
		AHIMS #57-4-0251		
		Test Transect 1		
		Test Transect 2		
		Test Transect 3		
		Test Transect 4		
		Test Transect 5		
		Test Transect 6		

		Test Transect 7 Test Transect 8		
	TSU6	Tantangara Dam West AHIMS #57-4-80 TSU6/L1 AHIMS #57-4-0308	Survey Unit generally of low significance	Unmitigated impact
	TSU7	TSU7/L1 AHIMS #57-4-0291 TSU7/L2 AHIMS #57-4-0286 TSU7/L3 AHIMS #57-4-0282 TSU7/L4 AHIMS #57-4-0283 TSU7/L5 AHIMS #57-4-0285 TSU7/L6 AHIMS #57-4-0284 TSU7/L7 AHIMS #57-4-0307 Test Transect 1 Test Transect 2	Survey Unit generally of low significance	Unmitigated impact
	TSU8	TSU8/L1 AHIMS #57-4-0256	Survey Unit generally of low significance	Unmitigated impact

		Test Transect 1 Test Transect 2		
	TSU9	Nil recorded	Survey Unit generally of low significance	Unmitigated impact
	TSU10	Nil recorded	Survey Unit generally of low significance	Unmitigated impact
	TSU11	TSU11/L1 AHIMS #57-4-0309 TSU11/L2 AHIMS #57-4-0306 TSU11/L3 AHIMS #57-4-0312 TSU11/L4 AHIMS #57-4-0295 TSU11/L5 AHIMS #57-4-0296 AHIMS TSU11/L6 #57-4-0299 TSU11/L7 AHIMS #57-4-0298 TSU11/L8 AHIMS #57-4-0297 TSU11/L9 AHIMS #57-4-0300 TSU11/L10 AHIMS #57-4-0303 SH218	Survey Unit generally of low significance	Salvage excavation

		AHIMS #57-4-237 TSU11/L11 This is duplicate of AHIMS #57-4-0301 SH227 AHIMS #57-4-235 TSU11/L12 This is duplicate of AHIMS #57-4-0281 SH219 AHIMS # 57-4-236 This is duplicate of TSU11/L13 AHIMS #57-4-0302 TSU11/L14 AHIMS #57-4-304 TSU11/L15 AHIMS #57-4-0305 TSU11/L16 AHIMS #57-4-0276 TSU11/L17 AHIMS #57-4-0277		
	TSU12	TSU12/L1 AHIMS #57-4-0278 TSU12/L2	Survey Unit generally of low significance	Unmitigated impact

		AHIMS #57-4-0279 TSU112/L3 AHIMS #57-4-0280		
	TSU13	Nil recorded	Survey Unit generally of low significance	Unmitigated impact
	TSU14	TSU14/L1 AHIMS #57-4-416 TSU14/L2 AHIMS #57-4-415 Test Transect 14 Test Transect 15 Test Transect 16 Test Transect 17 Test Transect 18 Test Transect 19 Test Transect 20	Survey Unit generally of low significance with low/moderate densities in sheltered position on east side of crest	Salvage excavation
	TSU14b	Nil recorded (unsurveyed)	Survey Unit assessed to potentially possess a higher Aboriginal artefact incidence. Significance yet to be determined.	Field survey to establish archaeological potential. Salvage excavation if survey results indiciate it is required.
	TSU15	TSU15/L1 AHIMS #57-4-414 TSU15/L2 AHIMS #57-4-413 TSU15/L3 AHIMS #57-4-412	Survey Unit generally of moderate significance	Salvage excavation

		TSU15/L4 AHIMS #57-4-411 TSU15/L5 AHIMS #57-4-410 Test Transect 3 Test Transect 4 Test Transect 5 Test Transect 6 Test Transect 7 Test Transect 8 Test Transect 9 Test Transect 10 Test Transect 11 Test Transect 12 Test Transect 13		
	TSU16	Nil recorded	Survey Unit generally of low significance	Unmitigated impact
	TSU17	Nil recorded	Survey Unit generally of low significance	Unmitigated impact
	TSU18	TSU18/L1 AHIMS #57-4-0436	Survey Unit generally of low significance	Unmitigated impact
	TSU19	Un-surveyed	Survey Unit generally of low potential	Unmitigated impact
	TSU20	Un-surveyed	Survey Unit generally of low potential	Unmitigated impact
	TSU21	Un-surveyed	Survey Unit generally of low potential	Unmitigated impact

	TSU22	Un-surveyed	Survey Unit generally of low potential	Unmitigated impact
	TSU23	Un-surveyed	Survey Unit generally of low potential	Unmitigated impact
	TSU24	Un-surveyed	Survey Unit generally of low potential	Unmitigated impact
Tantangara Road	TRdSU1	Tantangara 1	Survey Unit very low significance	Unmitigated impact
		AHIMS #57-4-0161		
		Gang Gang Creek		
		AHIMS #57-4-0038		
		TRdSU1/L1		
		AHIMS #57-4-0327		
		TRdSU1/L2		
		AHIMS #57-4-0328		
		TRdSU1/L3		
		AHIMS #57-4-0329		
		TRdSU1/L4		
		AHIMS #57-4-0332		
		TRdSU1/L5		
		AHIMS #57-4-0330		
		TRdSU1/L6		
		AHIMS #57-4-0331		
Nungar Ck Trail	NCTSU1	NCTSU1/L1	Survey Unit generally of negligible significance	Unmitigated impact
		AHIMS #57-4-0434		
	NCTSU2	NCTSU2/L1	Survey Unit generally of low significance	Unmitigated impact
		AHIMS #57-4-0417		
	NCTSU3	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact

	NCTSU4	NCTSU4/L1	Survey Unit generally of low significance	Unmitigated impact
		AHIMS #57-4-0433		
		NCTSU4/L2		
		AHIMS #57-4-0432		
		NCTSU4/L3		
		AHIMS #57-4-0431		
	NCTSU5	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU6	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU7	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU8	NCTSU8/L1	Survey Unit generally of negligible significance	Unmitigated impact
		AHIMS #57-4-0430		
	NCTSU9	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU10	NCTSU10/L1	Survey Unit generally of negligible significance	Unmitigated impact
		AHIMS #57-4-0429		
		NCTSU10/L2		
		AHIMS #57-4-0428		
		NCTSU10/L3		
		AHIMS #57-4-0427		
		NCTSU10/L4		
		AHIMS #57-4-0426		
	NCTSU11	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU12	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU13	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact

	NCTSU14	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU15	NCTSU15/L1 AHIMS #57-4-0425	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU16	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU17	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU18	NCTSU18/L1 AHIMS #57-4-0424	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU19	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU20	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU21	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU22	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU23	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU24	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU25	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU26	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU27	NCTSU27/L1 AHIMS #57-4-0423	Survey Unit generally of low significance	Unmitigated impact
	NCTSU28	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU29	Nil recorded	Survey Unit generally of low significance	Unmitigated impact
	NCTSU30	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU31	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU32	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact

	NCTSU33	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU34	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU35	Nil recorded	Survey Unit generally of low significance	Unmitigated impact
	NCTSU36	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	NCTSU37	Nil recorded	Survey Unit generally of negligible potential	Unmitigated impact
Rock Forest	CCSU1	CCSU1/L1 AHIMS #57-4-0418 CCSU1/L2 AHIMS #57-4-0419 CCSU1/L3 AHIMS #57-4-0420	Survey Unit generally of low significance	Unmitigated impact
	CCSU2	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	CCSU3	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	CCSU4	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	CCSU5	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	CCSU6	Nil recorded	Survey Unit generally of low significance	Unmitigated impact
	CCSU13	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	CCSU14	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	CCSU15	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	CCSU16	Nil recorded	Survey Unit generally of low significance	Unmitigated impact
	CCSU17	CCSU17/L1 AHIMS #57-4-422	Survey Unit generally of low significance with areas of greater potential	Salvage excavation

	CCSU18	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	CCSU19	Nil recorded	Survey Unit generally of negligible significance	Unmitigated impact
	CCSU20	Nil recorded	Survey Unit generally of negligible potential	Unmitigated impact

Table 4-4: Aboriginal Heritage – Avoid

Snowy 2.0 Main Works Aboriginal Heritage: avoid - no impacts permitted to significant site outside the RtS construction envelope				
Locale	**ID**	**Aboriginal Objects**	**Significance**	**Management and mitigation**
Tantangara dam	TSU11	TSU11/L16 (AHIMS 57-4-276) Rock Shelter	High	No impacts permitted - avoid

APPENDIX 5 – ROAD WORKS

Table 5-1: Road Upgrades

Section	*When*	*Design*	*Sign-off*
Lobs Hole Ravine Road - South	During construction	Dual lane gravel road	NPWS
	Prior to operation	Dual lane sealed road	NPWS
Lobs Hole Ravine Road – North	Prior to use	Minor work to provide turning areas (as outlined in the Exploratory Works)	NPWS
	During spring 2020	Seal the last 30 metres before the intersection with the Snowy Mountains Highway (SMH)	TfNSW
Link Road	During spring 2020	Dual lane sealed road with widening to 6m in some sections	NPWS
Mines Trail Road	During construction	Dual lane gravel road	NPWS
Tantangara Road, including upgrading Nungar Creek Bridge	Prior to construction on the Tantangara site	Dual lane gravel road	NPWS
Marica Trail and Marica Trail West	During construction	Single lane gravel road extended to Mines Trail Road	NPWS
Wharf Road/ Pipeline Road	During construction	Dual lane gravel road	NPWS
Quarry Trail	During construction	Dual lane gravel road	NPWS
Talbingo excavated road emplacement access road	Prior to the construction of the Ravine Bay permanent spoil emplacement area	New dual lane gravel road	NPWS
Tantangara camp road	During construction	Dual lane gravel road	NPWS
Ravine Bay spoil emplacement access road	Prior to the construction of the Tantangara permanent spoil emplacement area	Dual lane gravel road	NPWS
Gooandra, Bullock, Tantangara Dam, Nungar Creek and Alpine Creek fire trails	During construction	Minor works to allow for passing bays	NPWS
SMH (between Sawyer Hut and Link Road)	Prior to the delivery of transformers to the site	Two areas of minor cutback of existing embankment	NPWS

Table 5-2: Intersection Upgrades

Intersection	***When***	***Design***	***Sign-off***
SMH/Bombala Street	Prior to the delivery of tunnel boring machines, transformers or concrete segments using OSOM vehicles	Works to kerbs, signage, internal roundabout pavement, trimming overhanging vegetation, installation of temporary traffic signal and traffic sensors	TfNSW
SMH/Vale Street	Prior to the delivery of tunnel boring machines, transformers or concrete segments using OSOM vehicles	Works to kerbs, signage, internal roundabout pavement, trimming overhanging vegetation	TfNSW
SMH/Rock Forest	Prior to construction on the Rock Forest site	Basic Right Turn (BAR) treatment / Auxiliary Left Turn (AUL) treatment and pavement widening	TfNSW
SMH /Marica Trail	During construction	BAR / AUL, road widening, and embankment works	TfNSW
SMH/Tantangara Road	Prior to construction on the Tantangara site	Right-turn lane on SMH and vehicle activated sign	TfNSW
SMH/Link Road	During construction	Minor pavement marking changes and vehicle activated sign	TfNSW
Link Road/Lobs Hole Ravine Road – South	During construction	Sealing of intersection and vehicle activated signage	TfNSW